

# APPENDIX. UNITRIANGULAR MATRICES OF DIMENSION 5 OVER $\mathbb{F}$ AND THEIR AUTOMORPHISM ORBITS

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Appendix A contains the a set  $\mathcal{S}$  of elements in  $UT_5(\mathbb{F})$ . Every element in  $UT_5(\mathbb{F})$  can be mapped via conjugation by  $T_5(\mathbb{F})$  to one element in  $\mathcal{S}$ . Appendix B to Q contains the explicit computations referenced throughout the thesis. These include matrix conjugations, solutions of systems of equations, and verifications of orbit representatives under group actions. Most computations were performed with the assistance of computer software SageMath[3] to handle the large number of cases and to ensure accuracy.

For each subset of the partition, we identified a finite set of orbit representatives under the action of  $T_5(\mathbb{F})$ . This was done by selecting

an element  $x \in Y_i$ ,  $1 \leq i \leq 16$ , and finding a matrix  $A \in T_n(\mathbb{F})$  that conjugates it to a chosen representative.

$$A = \begin{pmatrix} d_1 & a_{1,2} & a_{1,3} & a_{1,4} & a_{1,5} \\ 0 & d_2 & a_{2,3} & a_{2,4} & a_{2,5} \\ 0 & 0 & d_3 & a_{3,4} & a_{3,5} \\ 0 & 0 & 0 & d_4 & a_{4,5} \\ 0 & 0 & 0 & 0 & d_5 \end{pmatrix}$$

However, determining these representatives required a case-by-case analysis. We had to consider the cases where each entry is either zero or nonzero in order to solve the system of equations, this leads to a large number of cases.

[illegible]

[illegible]

In what follows, whenever  $x_{ij}$  is written to represent an entry of the matrix  $x$  it indicates that  $x_{ij}$  is a non zero rational number.

APPENDIX B. SUBCASES OF  $Y_1$ 

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$d_1 = x_{15}, d_2 = 1, d_3 = 1, d_4 = 1, d_5 = 1,$$

$$a_{12} = 1, a_{13} = 1, a_{14} = 1, a_{15} = 1,$$

$$a_{23} = 1, a_{24} = 1, a_{25} = 1,$$

$$a_{34} = 1, a_{35} = 1, a_{45} = 1$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$d_1 = 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{14}}, d_5 = 1,$$

$$a_{12} = 1, a_{13} = 1, a_{14} = 1, a_{15} = 1,$$

$$a_{23} = 1, a_{24} = 1, a_{25} = 1,$$

$$a_{34} = 1, a_{35} = 1, a_{45} = 0$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$d_1 = x_{14}, d_2 = 1, d_3 = 1, d_4 = 1, d_5 = -\frac{x_{14}}{x_{15}},$$

$$a_{12} = 1, a_{13} = 1, a_{14} = 1, a_{15} = 1,$$

$$a_{23} = 1, a_{24} = 1, a_{25} = 1,$$

$$a_{34} = 1, a_{35} = 1, a_{45} = 1$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$d_1 = 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = 1, d_5 = 1,$$

$$a_{12} = 1, a_{13} = 1, a_{14} = 1, a_{15} = 1,$$

$$a_{23} = 1, a_{24} = 1, a_{25} = 1,$$

$$a_{34} = 0, a_{35} = 0, a_{45} = 1$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = 1, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{15}}{x_{13}}, a_{45} = 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= x_{13}, d_2 = 1, d_3 = 1, d_4 = -\frac{x_{13}}{x_{14}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, a_{45} = -\frac{x_{13}}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= x_{13}, d_2 = 1, d_3 = 1, d_4 = -\frac{x_{13}}{x_{14}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, a_{45} = -\frac{x_{13} + x_{15}}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, a_{45} = 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= \frac{x_{15}}{x_{25}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, a_{45} = 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, a_{45} = \frac{1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, a_{45} = -\frac{x_{15} - x_{25}}{x_{14}x_{25}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = 1, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{1}{x_{13}}, a_{45} = 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = 1, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{15} - x_{25}}{x_{13}x_{25}}, a_{45} = 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = 1, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{14}}{x_{13}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{13} - 1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = 1, d_5 = \frac{1}{x_{25}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= -\frac{x_{14}}{x_{13}}, a_{35} = 1, a_{45} = -\frac{x_{15} + (x_{13} - 1)x_{25}}{x_{14}x_{25}} \\
 x &= \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}
 \end{aligned}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = 1, \\
 a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= 1, a_{35} = 1, a_{45} = 0 \\
 x &= \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 0 & 1 & 1 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}
 \end{aligned}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = -\frac{1}{x_{15}}, \\
 a_{12} &= -1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= 1, a_{35} = 1, \\
 a_{45} &= \frac{1}{x_{24}} \\
 x &= \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}
 \end{aligned}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = 1, \\
 a_{12} &= \frac{x_{14}}{x_{24}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= 1, a_{35} = 1, \\
 a_{45} &= 0
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 0 & 1 & 1 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$d_1 = 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = -\frac{1}{x_{15}},$$

$$a_{12} = \frac{x_{14} - x_{24}}{x_{24}}, a_{13} = 1, a_{14} = 1, a_{15} = 1,$$

$$a_{23} = 1, a_{24} = 1, a_{25} = 1,$$

$$a_{34} = 1, a_{35} = 1,$$

$$a_{45} = \frac{1}{x_{24}}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$d_1 = 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = 1,$$

$$a_{12} = 1, a_{13} = 1, a_{14} = 1, a_{15} = 1,$$

$$a_{23} = 1, a_{24} = 1, a_{25} = 1,$$

$$a_{34} = \frac{1}{x_{13}}, a_{35} = 0,$$

$$a_{45} = 0$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$d_1 = 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = 1,$$

$$a_{12} = 1, a_{13} = 1, a_{14} = 1, a_{15} = 1,$$

$$a_{23} = 1, a_{24} = 1, a_{25} = 1,$$

$$a_{34} = \frac{1}{x_{13}}, a_{35} = -\frac{x_{15}}{x_{13}},$$

$$a_{45} = 0$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{14} - x_{24}}{x_{13}x_{24}}, a_{35} = 0, a_{45} = 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{14} - x_{24}}{x_{13}x_{24}}, a_{35} = -\frac{x_{15}}{x_{13}}, a_{45} = 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = 1, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, a_{45} = -\frac{x_{25}}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 0 & 1 & 1 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = -\frac{1}{x_{15}}, \\ a_{12} &= -1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= \frac{x_{15} + x_{25}}{x_{15}x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 0 & 1 & 1 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = \frac{x_{24}}{x_{14}x_{25}}, \\ a_{12} &= \frac{x_{14} - x_{24}}{x_{24}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, a_{45} = \frac{x_{14} - x_{24}}{x_{14}x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 0 & 1 & 1 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = -\frac{x_{24}}{x_{15}x_{24} - x_{14}x_{25}}, \\ a_{12} &= \frac{x_{14} - x_{24}}{x_{24}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, a_{45} = \frac{x_{15}x_{24} - (x_{14} - x_{24})x_{25}}{x_{15}x_{24}^2 - x_{14}x_{24}x_{25}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = 0, \\ a_{45} &= -\frac{x_{25}}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = 1, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{1}{x_{13}}, a_{35} = -\frac{x_{15}}{x_{13}}, \\
 a_{45} &= -\frac{x_{25}}{x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = 1, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= -\frac{x_{14} - x_{24}}{x_{13}x_{24}}, a_{35} = \frac{x_{14}x_{25}}{x_{13}x_{24}}, \\
 a_{45} &= -\frac{x_{25}}{x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = 1, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= -\frac{x_{14} - x_{24}}{x_{13}x_{24}}, a_{35} = -\frac{x_{15}x_{24} - x_{14}x_{25}}{x_{13}x_{24}}, a_{45} = -\frac{x_{25}}{x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{35}}, \\
 a_{12} &= 1, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= 1, a_{35} = 1, a_{45} = 1
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{35}}, \\ a_{12} &= 1, a_{13} = \frac{x_{15}}{x_{35}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, a_{45} = 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, a_{45} = \frac{1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, a_{45} = -\frac{x_{15} - x_{35}}{x_{14}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 = 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = 1, d_5 = \frac{1}{x_{13}x_{35}}, \\ a_{12} = 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} = 0, a_{24} = 1, a_{25} = 1, \\ a_{34} = 0, a_{35} = \frac{1}{x_{13}}, a_{45} = 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 = 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = 1, d_5 = \frac{1}{x_{13}x_{35}}, \\ a_{12} = 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} = 0, a_{24} = 1, a_{25} = 1, \\ a_{34} = 0, a_{35} = \frac{x_{13}x_{35} - x_{15}}{x_{13}^2x_{35}}, a_{45} = 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 = 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = 1, d_5 = \frac{1}{x_{13}x_{35}}, \\ a_{12} = 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} = 0, a_{24} = 1, a_{25} = 1, \\ a_{34} = -\frac{x_{14}}{x_{13}}, a_{35} = 1, a_{45} = -\frac{x_{13} - 1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 = 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = 1, d_5 = \frac{1}{x_{13}x_{35}}, \\ a_{12} = 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} = 0, a_{24} = 1, a_{25} = 1, \\ a_{34} = -\frac{x_{14}}{x_{13}}, a_{35} = 1, a_{45} = -\frac{x_{15} + (x_{13}^2 - x_{13})x_{35}}{x_{13}x_{14}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{35}}, \\ a_{12} &= 1, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{25}}{x_{35}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{35}}, \\ a_{12} &= 1, a_{13} = \frac{x_{15}}{x_{35}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{25}}{x_{35}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{25}}{x_{35}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{25}}{x_{35}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{15} - x_{35}}{x_{14}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = 1, d_5 = \frac{1}{x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{25}}{x_{13}x_{35}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{1}{x_{13}}, a_{45} = 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = 1, d_5 = \frac{1}{x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{25}}{x_{13}x_{35}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{x_{13}x_{35} - x_{15}}{x_{13}^2x_{35}}, a_{45} = 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = 1, d_5 = \frac{1}{x_{13}x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{25}}{x_{13}x_{35}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= -\frac{x_{14}}{x_{13}}, a_{35} = 1, \\
 a_{45} &= -\frac{x_{13} - 1}{x_{14}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = 1, d_5 = \frac{1}{x_{13}x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{25}}{x_{13}x_{35}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= -\frac{x_{14}}{x_{13}}, a_{35} = 1, \\
 a_{45} &= -\frac{x_{15} + (x_{13}^2 - x_{13})x_{35}}{x_{13}x_{14}x_{35}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{35}}, \\
 a_{12} &= 0, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= 1, a_{35} = 1, a_{45} = \frac{1}{x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{35}}, \\ a_{12} &= 0, a_{13} = \frac{x_{15}}{x_{35}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{35}}, \\ a_{12} &= \frac{x_{14}}{x_{24}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{14}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{35}}, \\ a_{12} &= \frac{x_{14}}{x_{24}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{15}x_{24} - x_{24}x_{35}}{x_{14}x_{35}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{15} - x_{35}}{x_{14}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, a_{45} = \frac{1}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{x_{13}x_{35} - x_{15}}{x_{13}^2x_{35}}, \\ a_{45} &= \frac{1}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{14} - x_{24}}{x_{13}x_{24}}, a_{35} = -\frac{x_{14} - x_{24}}{x_{13}x_{24}}, \\ a_{45} &= \frac{1}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{13}x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= -\frac{x_{14} - x_{24}}{x_{13}x_{24}}, a_{35} = -\frac{x_{15}x_{24} + (x_{13}x_{14} - x_{13}x_{24})x_{35}}{x_{13}^2x_{24}x_{35}}, \\
 a_{45} &= \frac{1}{x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{35}}, \\
 a_{12} &= 0, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= 1, a_{35} = 1, \\
 a_{45} &= -\frac{x_{25} - x_{35}}{x_{24}x_{35}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{35}}, \\
 a_{12} &= 0, a_{13} = \frac{x_{15}}{x_{35}}, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= 1, a_{35} = 1, \\
 a_{45} &= -\frac{x_{25} - x_{35}}{x_{24}x_{35}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{35}}, \\ a_{12} &= \frac{x_{14}}{x_{24}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{14}x_{25} + x_{24}x_{35}}{x_{14}x_{35}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{35}}, \\ a_{12} &= \frac{x_{14}}{x_{24}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{15}x_{24} - x_{14}x_{25} - x_{24}x_{35}}{x_{14}x_{35}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{15} - x_{35}}{x_{14}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= \frac{x_{13}x_{35} - x_{25}}{x_{13}x_{24}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{x_{13}x_{35} - x_{15}}{x_{13}^2x_{35}}, \\ a_{45} &= \frac{x_{13}x_{35} - x_{25}}{x_{13}x_{24}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{14} - x_{24}}{x_{13}x_{24}}, a_{35} = \frac{x_{14}x_{25} - (x_{13}x_{14} - x_{13}x_{24})x_{35}}{x_{13}^2x_{24}x_{35}}, \\ a_{45} &= \frac{x_{13}x_{35} - x_{25}}{x_{13}x_{24}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{14} - x_{24}}{x_{13}x_{24}}, a_{35} = -\frac{x_{15}x_{24} - x_{14}x_{25} + (x_{13}x_{14} - x_{13}x_{24})x_{35}}{x_{13}^2x_{24}x_{35}}, \\ a_{45} &= \frac{x_{13}x_{35} - x_{25}}{x_{13}x_{24}x_{35}} \end{aligned}$$

## APPENDIX C. SUBCASES OF $Y_2$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$d_1 = x_{12}, d_2 = 1, d_3 = 1, d_4 = 1, d_5 = 1,$$

$$a_{12} = 1, a_{13} = 1, a_{14} = 1, a_{15} = 1,$$

$$a_{23} = 0, a_{24} = 0, a_{25} = 0,$$

$$a_{34} = 1, a_{35} = 1, a_{45} = 1$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$d_1 = x_{12}, d_2 = 1, d_3 = 1, d_4 = 1, d_5 = 1,$$

$$a_{12} = 1, a_{13} = 1, a_{14} = 1, a_{15} = 1,$$

$$a_{23} = 0, a_{24} = 0, a_{25} = -\frac{x_{15}}{x_{12}},$$

$$a_{34} = 1, a_{35} = 1, a_{45} = 1$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$d_1 = 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = 1,$$

$$a_{12} = 1, a_{13} = 1, a_{14} = 1, a_{15} = 1,$$

$$a_{23} = 0, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = -\frac{x_{14}}{x_{12}},$$

$$a_{34} = 1, a_{35} = 1, a_{45} = 1$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$d_1 = 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = 1,$$

$$a_{12} = 1, a_{13} = 1, a_{14} = 1, a_{15} = 1,$$

$$a_{23} = 0, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = -\frac{x_{14} + x_{15}}{x_{12}},$$

$$a_{34} = 1, a_{35} = 1, a_{45} = 1$$



$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= x_{12}, d_2 = 1, d_3 = -\frac{x_{12}}{x_{13}}, d_4 = 1, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}}{x_{13}}, a_{35} = -\frac{x_{12}}{x_{13}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= x_{12}, d_2 = 1, d_3 = -\frac{x_{12}}{x_{13}}, d_4 = 1, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}}{x_{13}}, a_{35} = -\frac{x_{12} + x_{15}}{x_{13}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= x_{12}, d_2 = 1, d_3 = -\frac{x_{12}}{x_{13}}, d_4 = 1, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} + x_{14}}{x_{13}}, a_{35} = -\frac{x_{12} + x_{14}}{x_{13}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= x_{12}, d_2 = 1, d_3 = -\frac{x_{12}}{x_{13}}, d_4 = 1, d_5 = 1, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= -\frac{x_{12} + x_{14}}{x_{13}}, a_{35} = -\frac{x_{12} + x_{14} + x_{15}}{x_{13}}, a_{45} = 1 \\
 x &= \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}
 \end{aligned}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{12}x_{25}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = 0, a_{25} = \frac{1}{x_{12}}, \\
 a_{34} &= 1, a_{35} = 1, a_{45} = 1 \\
 x &= \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}
 \end{aligned}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{12}x_{25}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = 0, a_{25} = \frac{x_{12}x_{25} - x_{15}}{x_{12}^2x_{25}}, \\
 a_{34} &= 1, a_{35} = 1, a_{45} = 1 \\
 x &= \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}
 \end{aligned}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{12}x_{25}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\
 a_{34} &= 1, a_{35} = 1, \\
 a_{45} &= -\frac{x_{12} - 1}{x_{14}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, a_{45} = -\frac{x_{15} + (x_{12}^2 - x_{12})x_{25}}{x_{12}x_{14}x_{25}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}}{x_{13}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, a_{45} = 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}}{x_{13}}, a_{35} = -\frac{x_{15} + (x_{12}^2 - x_{12})x_{25}}{x_{12}x_{13}x_{25}}, a_{45} = 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{12}x_{25}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= -\frac{x_{12} + x_{14}}{x_{13}}, a_{35} = 1, a_{45} = -\frac{x_{12} + x_{13} - 1}{x_{14}} \\
 x &= \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}
 \end{aligned}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{12}x_{25}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= -\frac{x_{12} + x_{14}}{x_{13}}, a_{35} = 1, a_{45} = -\frac{x_{15} + (x_{12}^2 + x_{12}x_{13} - x_{12})x_{25}}{x_{12}x_{14}x_{25}} \\
 x &= \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}
 \end{aligned}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = 1, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = 0, \\
 a_{34} &= 1, a_{35} = 1, a_{45} = 0 \\
 x &= \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}
 \end{aligned}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = 1, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = -\frac{x_{15}}{x_{12}}, \\
 a_{34} &= 1, a_{35} = 1, a_{45} = 0
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = 0, \\ a_{34} &= 1, a_{35} = 1, a_{45} = 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = -\frac{x_{15}}{x_{12}}, \\ a_{34} &= 1, a_{35} = 1, a_{45} = 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{12}}{x_{13}}, a_{45} = 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = 1, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\
a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{12} + x_{15}}{x_{13}}, a_{45} = 0
\end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = 1, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\
a_{34} &= -\frac{x_{14} + (x_{12}^2 - x_{12})x_{24}}{x_{12}x_{13}x_{24}}, a_{35} = -\frac{x_{12}}{x_{13}}, a_{45} = 0
\end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = 1, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\
a_{34} &= -\frac{x_{14} + (x_{12}^2 - x_{12})x_{24}}{x_{12}x_{13}x_{24}}, a_{35} = -\frac{x_{12} + x_{15}}{x_{13}}, a_{45} = 0
\end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = 1, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = 0, \\
a_{34} &= 1, a_{35} = 1, a_{45} = -\frac{x_{25}}{x_{24}}
\end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = -\frac{x_{15}}{x_{12}}, \\ a_{34} &= 1, a_{35} = 1, a_{45} = -\frac{x_{25}}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = \frac{x_{14}x_{25}}{x_{12}x_{24}}, \\ a_{34} &= 1, a_{35} = 1, a_{45} = -\frac{x_{25}}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = -\frac{x_{15}x_{24} - x_{14}x_{25}}{x_{12}x_{24}}, \\ a_{34} &= 1, a_{35} = 1, a_{45} = -\frac{x_{25}}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = 1, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{12}}{x_{13}}, a_{45} = -\frac{x_{25}}{x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = 1, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{12} + x_{15}}{x_{13}}, a_{45} = -\frac{x_{25}}{x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = 1, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= -\frac{x_{14} + (x_{12}^2 - x_{12})x_{24}}{x_{12}x_{13}x_{24}}, a_{35} = -\frac{x_{12}x_{24} - x_{14}x_{25}}{x_{13}x_{24}}, a_{45} = -\frac{x_{25}}{x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = 1, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= -\frac{x_{14} + (x_{12}^2 - x_{12})x_{24}}{x_{12}x_{13}x_{24}}, a_{35} = \frac{x_{14}x_{25} - (x_{12} + x_{15})x_{24}}{x_{13}x_{24}}, a_{45} = -\frac{x_{25}}{x_{24}}
 \end{aligned}$$



$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= 1, a_{35} = 1, a_{45} = 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = -\frac{x_{15} - x_{35}}{x_{12}x_{35}}, \\ a_{34} &= 1, a_{35} = 1, a_{45} = 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, a_{45} = -\frac{x_{12} - 1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, a_{45} = -\frac{x_{15} + (x_{12} - 1)x_{35}}{x_{14}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = 1, d_5 = \frac{1}{x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}}{x_{13}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, a_{45} = 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = 1, d_5 = \frac{1}{x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}}{x_{13}}, a_{35} = -\frac{(x_{12} - 1)x_{13}x_{35} + x_{15}}{x_{13}^2x_{35}}, a_{45} = 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = 1, d_5 = \frac{1}{x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} + x_{14}}{x_{13}}, a_{35} = 1, a_{45} = -\frac{x_{12} + x_{13} - 1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = 1, d_5 = \frac{1}{x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} + x_{14}}{x_{13}}, a_{35} = 1, a_{45} = -\frac{x_{15} + (x_{13}^2 + (x_{12} - 1)x_{13})x_{35}}{x_{13}x_{14}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{35}}{x_{12}x_{25}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{35}}{x_{12}x_{25}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = \frac{x_{12}x_{25} - x_{15}}{x_{12}^2x_{25}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{35}}{x_{12}x_{25}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{12} - 1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{35}}{x_{12}x_{25}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{15} + (x_{12}^2 - x_{12})x_{25}}{x_{12}x_{14}x_{25}} \end{aligned}$$

First assume  $x_{13} \neq \frac{-x_{12}x_{25}}{x_{35}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{35}}{x_{12}x_{25} + x_{13}x_{35}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{25} + x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{25}}{x_{12}x_{25} + x_{13}x_{35}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}}{x_{13}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, a_{45} = 1 \end{aligned}$$

Now assume  $x_{13} = \frac{-x_{12}x_{25}}{x_{35}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{25}}{x_{35}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{25}}, a_{35} = \frac{(x_{12} - 1)x_{35}}{x_{12}x_{25}}, a_{45} = 1 \end{aligned}$$

First assume  $x_{13} \neq \frac{-x_{12}x_{25}}{x_{35}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{35}}{x_{12}x_{25} + x_{13}x_{35}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{25} + x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{25}}{x_{12}x_{25} + x_{13}x_{35}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}}{x_{13}}, a_{35} = -\frac{(x_{12} - 1)x_{13}x_{35} + x_{15} + (x_{12}^2 - x_{12})x_{25}}{x_{12}x_{13}x_{25} + x_{13}^2x_{35}}, a_{45} = 1 \end{aligned}$$

Now assume  $x_{13} = \frac{-x_{12}x_{25}}{x_{35}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{25}}{x_{35}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{25}}, a_{35} = \frac{x_{15} + (x_{12} - 1)x_{35}}{x_{12}x_{25}}, a_{45} = 1 \end{aligned}$$

First assume  $x_{13} \neq \frac{-x_{12}x_{25}}{x_{35}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{35}}{x_{12}x_{25} + x_{13}x_{35}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{25} + x_{13}x_{35}}, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= \frac{x_{25}}{x_{12}x_{25} + x_{13}x_{35}}, a_{24} = 1, a_{25} = 1, \\
a_{34} &= -\frac{x_{12} + x_{14}}{x_{13}}, a_{35} = 1, \\
a_{45} &= -\frac{x_{12} + x_{13} - 1}{x_{14}}
\end{aligned}$$

Now assume  $x_{13} = \frac{-x_{12}x_{25}}{x_{35}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{35}}, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= \frac{x_{25}}{x_{35}}, a_{24} = 1, a_{25} = 1, \\
a_{34} &= \frac{(x_{12} + x_{14})x_{35}}{x_{12}x_{25}}, a_{35} = 1, \\
a_{45} &= \frac{x_{12}x_{25} - (x_{12} - 1)x_{35}}{x_{14}x_{35}}
\end{aligned}$$

First assume  $x_{13} \neq \frac{-x_{12}x_{25}}{x_{35}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{35}}{x_{12}x_{25} + x_{13}x_{35}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{25} + x_{13}x_{35}}, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= \frac{x_{25}}{x_{12}x_{25} + x_{13}x_{35}}, a_{24} = 1, a_{25} = 1, \\
a_{34} &= -\frac{x_{12} + x_{14}}{x_{13}}, a_{35} = 1, \\
a_{45} &= -\frac{x_{15} + (x_{12}^2 + x_{12}x_{13} - x_{12})x_{25} + (x_{13}^2 + (x_{12} - 1)x_{13})x_{35}}{x_{12}x_{14}x_{25} + x_{13}x_{14}x_{35}}
\end{aligned}$$

Now assume  $x_{13} = \frac{-x_{12}x_{25}}{x_{35}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{25}}{x_{35}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{(x_{12} + x_{14})x_{35}}{x_{12}x_{25}}, a_{35} = 1, \\
 a_{45} &= \frac{x_{12}x_{25} - x_{15} - (x_{12} - 1)x_{35}}{x_{14}x_{35}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{1}{x_{12}}, \\
 a_{34} &= 1, a_{35} = 1, a_{45} = 0
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = -\frac{x_{15} - x_{35}}{x_{12}x_{35}}, \\
 a_{34} &= 1, a_{35} = 1, \\
 a_{45} &= 0
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = \frac{1}{x_{12}}, \\
 a_{34} &= 1, a_{35} = 1, \\
 a_{45} &= 0
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = -\frac{x_{15} - x_{35}}{x_{12}x_{35}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= -\frac{x_{13}}{x_{12}x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{15} + (x_{12} - 1)x_{35}}{x_{13}x_{35}}, \\ a_{45} &= -\frac{x_{13}}{x_{12}x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= -\frac{x_{14} + (x_{12}^2 - x_{12})x_{24}}{x_{12}x_{13}x_{24}}, a_{35} = \frac{x_{13}x_{14} - (x_{12}^2 - x_{12})x_{24}}{x_{12}x_{13}x_{24}}, \\
 a_{45} &= -\frac{x_{13}}{x_{12}x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= -\frac{x_{14} + (x_{12}^2 - x_{12})x_{24}}{x_{12}x_{13}x_{24}}, a_{35} = -\frac{x_{12}x_{15}x_{24} - (x_{13}x_{14} - (x_{12}^2 - x_{12})x_{24})x_{35}}{x_{12}x_{13}x_{24}x_{35}}, \\
 a_{45} &= -\frac{x_{13}}{x_{12}x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{1}{x_{12}}, \\
 a_{34} &= 1, a_{35} = 1, \\
 a_{45} &= -\frac{x_{25}}{x_{24}x_{35}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = -\frac{x_{15} - x_{35}}{x_{12}x_{35}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{25}}{x_{24}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = \frac{x_{14}x_{25} + x_{24}x_{35}}{x_{12}x_{24}x_{35}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{25}}{x_{24}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = -\frac{x_{15}x_{24} - x_{14}x_{25} - x_{24}x_{35}}{x_{12}x_{24}x_{35}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{25}}{x_{24}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= -\frac{x_{12}x_{25} + x_{13}x_{35}}{x_{12}x_{24}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{15} + (x_{12} - 1)x_{35}}{x_{13}x_{35}}, \\ a_{45} &= -\frac{x_{12}x_{25} + x_{13}x_{35}}{x_{12}x_{24}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{14} + (x_{12}^2 - x_{12})x_{24}}{x_{12}x_{13}x_{24}}, a_{35} = \frac{x_{12}x_{14}x_{25} + (x_{13}x_{14} - (x_{12}^2 - x_{12})x_{24})x_{35}}{x_{12}x_{13}x_{24}x_{35}}, \\ a_{45} &= -\frac{x_{12}x_{25} + x_{13}x_{35}}{x_{12}x_{24}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{35}}, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\
a_{34} &= -\frac{x_{14} + (x_{12}^2 - x_{12})x_{24}}{x_{12}x_{13}x_{24}}, a_{35} = -\frac{x_{12}x_{15}x_{24} - x_{12}x_{14}x_{25} - (x_{13}x_{14} - (x_{12}^2 - x_{12})x_{24})x_{35}}{x_{12}x_{13}x_{24}x_{35}}, \\
a_{45} &= -\frac{x_{12}x_{25} + x_{13}x_{35}}{x_{12}x_{24}x_{35}}
\end{aligned}$$

#### APPENDIX D. SUBCASES OF $Y_3$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = 1, \\
a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
a_{34} &= 0, a_{35} = 0, \\
a_{45} &= 1
\end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{15}}, \\
a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
a_{34} &= 0, a_{35} = 0, \\
a_{45} &= 1
\end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = 1, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = 1, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 0, \\ a_{45} &= -\frac{x_{15}}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 0, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{15}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 0, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 0, \\ a_{45} &= -\frac{x_{15}}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = 1, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{15}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{25}}{x_{15}x_{23}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = 1, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = 1, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= -\frac{x_{15}}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = -\frac{x_{23}}{x_{13}x_{25}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= 1 \end{aligned}$$

First assume  $x_{15} \neq \frac{x_{13}x_{25}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{x_{23}}{x_{15}x_{23} - x_{13}x_{25}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{25}}{x_{15}x_{23} - x_{13}x_{25}}, \\ a_{45} &= 1 \end{aligned}$$

Now assume  $x_{15} = \frac{x_{13}x_{25}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= \frac{x_{13}x_{25}}{x_{14}x_{23}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= -\frac{x_{15}x_{23} - x_{13}x_{25}}{x_{14}x_{23}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$d_1 = 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = 1,$$

$$a_{12} = 0, a_{13} = 1, a_{14} = 1, a_{15} = 1,$$

$$a_{23} = 1, a_{24} = 1, a_{25} = 1,$$

$$a_{34} = -\frac{x_{24}}{x_{23}}, a_{35} = 1,$$

$$a_{45} = -\frac{x_{23}}{x_{24}}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$d_1 = 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{15}},$$

$$a_{12} = 0, a_{13} = 1, a_{14} = 1, a_{15} = 1,$$

$$a_{23} = 1, a_{24} = 1, a_{25} = 1,$$

$$a_{34} = -\frac{x_{24}}{x_{23}}, a_{35} = 1,$$

$$a_{45} = -\frac{x_{23}}{x_{24}}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$d_1 = 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = 1,$$

$$a_{12} = 0, a_{13} = 1, a_{14} = 1, a_{15} = 1,$$

$$a_{23} = 1, a_{24} = 1, a_{25} = 1,$$

$$a_{34} = -\frac{x_{24}}{x_{14}x_{23}}, a_{35} = 0,$$

$$a_{45} = 0$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = 1, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14}x_{23}}, a_{35} = \frac{x_{15}x_{24}}{x_{14}x_{23}}, \\ a_{45} &= -\frac{x_{15}}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = -\frac{x_{23}}{x_{13}x_{24}}, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = -\frac{x_{23}}{x_{13}x_{24}}, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = -\frac{x_{15}}{x_{13}}, \\ a_{45} &= \frac{x_{15}x_{23}}{x_{13}x_{24}} \end{aligned}$$

First assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{23}}{x_{14}x_{23} - x_{13}x_{24}}, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{23}}{x_{24}} \end{aligned}$$

First assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{23}}{x_{14}x_{23} - x_{13}x_{24}}, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, a_{35} = \frac{x_{15}x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, \\ a_{45} &= -\frac{x_{15}x_{23}}{x_{14}x_{23} - x_{13}x_{24}} \end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{15}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{23}}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = 1, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{23} + x_{25}}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{15}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{15}x_{23} + x_{25}}{x_{15}x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = 1, \\
 a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= -\frac{x_{24}}{x_{14}x_{23}}, a_{35} = -\frac{x_{25}}{x_{23}}, \\
 a_{45} &= 0
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = 1, \\
 a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= -\frac{x_{24}}{x_{14}x_{23}}, a_{35} = \frac{x_{15}x_{24} - x_{14}x_{25}}{x_{14}x_{23}}, \\
 a_{45} &= -\frac{x_{15}}{x_{14}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = -\frac{x_{23}}{x_{13}x_{24}}, d_5 = 1, \\
 a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{1}{x_{13}}, a_{35} = 0, \\
 a_{45} &= -\frac{x_{25}}{x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = -\frac{x_{23}}{x_{13}x_{24}}, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = -\frac{x_{15}}{x_{13}}, \\ a_{45} &= \frac{x_{15}x_{23} - x_{13}x_{25}}{x_{13}x_{24}} \end{aligned}$$

First assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{23}}{x_{14}x_{23} - x_{13}x_{24}}, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, a_{35} = -\frac{x_{14}x_{25}}{x_{14}x_{23} - x_{13}x_{24}}, \\ a_{45} &= \frac{x_{13}x_{25}}{x_{14}x_{23} - x_{13}x_{24}} \end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = -\frac{x_{23}}{x_{13}x_{25}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{(x_{13} - 1)x_{23}}{x_{13}x_{24}} \end{aligned}$$

First assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{23}}{x_{14}x_{23} - x_{13}x_{24}}, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, a_{35} = \frac{x_{15}x_{24} - x_{14}x_{25}}{x_{14}x_{23} - x_{13}x_{24}}, \\ a_{45} &= -\frac{x_{15}x_{23} - x_{13}x_{25}}{x_{14}x_{23} - x_{13}x_{24}} \end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$  and  $x_{15} \neq \frac{x_{13}x_{25}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{x_{23}}{x_{15}x_{23} - x_{13}x_{25}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{15}x_{23}^2 - (x_{13} - 1)x_{23}x_{25}}{x_{15}x_{23}x_{24} - x_{13}x_{24}x_{25}} \end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$  and  $x_{15} = \frac{x_{13}x_{25}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{23} + x_{25}}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{23}x_{35}}, \\ a_{12} &= 0, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{1}{x_{23}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{23}x_{35}}, \\ a_{12} &= 0, a_{13} = \frac{x_{15}}{x_{23}x_{35}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{1}{x_{23}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{23}x_{35}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{1}{x_{23}}, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{23}x_{35}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{1}{x_{23}}, \\ a_{45} &= \frac{x_{23}x_{35} - x_{15}}{x_{14}x_{23}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{23}x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}}{x_{13}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{23}x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}x_{35} - x_{15}}{x_{13}x_{35}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{x_{23}x_{35} - x_{15}}{x_{13}x_{23}x_{35}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{23}x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{1}{x_{23}}, \\ a_{45} &= -\frac{x_{13} - x_{23}}{x_{14}x_{23}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{23}x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{1}{x_{23}}, \\ a_{45} &= -\frac{x_{15} + (x_{13} - x_{23})x_{35}}{x_{14}x_{23}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{23}x_{35}}, \\ a_{12} &= 0, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{x_{23}x_{35} - x_{25}}{x_{23}^2x_{35}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{23}x_{35}}, \\
 a_{12} &= 0, a_{13} = \frac{x_{15}}{x_{23}x_{35}}, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = \frac{x_{23}x_{35} - x_{25}}{x_{23}^2x_{35}}, \\
 a_{45} &= 1
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{23}x_{35}}, \\
 a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = \frac{x_{23}x_{35} - x_{25}}{x_{23}^2x_{35}}, \\
 a_{45} &= \frac{1}{x_{14}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{23}x_{35}}, \\
 a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = \frac{x_{23}x_{35} - x_{25}}{x_{23}^2x_{35}}, \\
 a_{45} &= \frac{x_{23}x_{35} - x_{15}}{x_{14}x_{23}x_{35}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{23}x_{35}}, \\
 a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{23}^2x_{35} + x_{13}x_{25}}{x_{13}x_{23}x_{35}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = \frac{1}{x_{13}}, \\
 a_{45} &= 1
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{23}x_{35}}, \\
 a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{23}^2x_{35} - x_{15}x_{23} + x_{13}x_{25}}{x_{13}x_{23}x_{35}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = \frac{x_{23}x_{35} - x_{15}}{x_{13}x_{23}x_{35}}, \\
 a_{45} &= 1
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{23}x_{35}}, \\
 a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = \frac{x_{23}x_{35} - x_{25}}{x_{23}^2x_{35}}, \\
 a_{45} &= \frac{x_{13}x_{25} - (x_{13}x_{23} - x_{23}^2)x_{35}}{x_{14}x_{23}^2x_{35}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{23}x_{35}}, \\
 a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = \frac{x_{23}x_{35} - x_{25}}{x_{23}^2x_{35}}, \\
 a_{45} &= -\frac{x_{15}x_{23} - x_{13}x_{25} + (x_{13}x_{23} - x_{23}^2)x_{35}}{x_{14}x_{23}^2x_{35}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{23}x_{35}}, \\
 a_{12} &= 0, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\
 a_{45} &= -\frac{x_{23} - 1}{x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{23}x_{35}}, \\
 a_{12} &= 0, a_{13} = \frac{x_{15}}{x_{23}x_{35}}, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\
 a_{45} &= -\frac{x_{23} - 1}{x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{23}x_{35}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14}x_{23}}, a_{35} = \frac{x_{14} - x_{24}}{x_{14}x_{23}}, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{23}x_{35}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14}x_{23}}, a_{35} = \frac{x_{15}x_{24} + (x_{14}x_{23} - x_{23}x_{24})x_{35}}{x_{14}x_{23}^2x_{35}}, \\ a_{45} &= \frac{x_{23}x_{35} - x_{15}}{x_{14}x_{23}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = -\frac{x_{23}}{x_{13}x_{24}}, d_5 = \frac{1}{x_{23}x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= \frac{x_{13} - x_{23}}{x_{13}x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = -\frac{x_{23}}{x_{13}x_{24}}, d_5 = \frac{1}{x_{23}x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{x_{23}x_{35} - x_{15}}{x_{13}x_{23}x_{35}}, \\ a_{45} &= \frac{x_{15} + (x_{13} - x_{23})x_{35}}{x_{13}x_{24}x_{35}} \end{aligned}$$

First assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$ .

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{23}}{x_{14}x_{23} - x_{13}x_{24}}, d_5 = \frac{1}{x_{23}x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, a_{35} = \frac{x_{14} - x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, \\ a_{45} &= -\frac{x_{13} - x_{23}}{x_{14}x_{23} - x_{13}x_{24}} \end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$ .

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{23}x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}}{x_{13}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{(x_{13} - 1)x_{23}}{x_{13}x_{24}} \end{aligned}$$

First assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$ .

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{23}}{x_{14}x_{23} - x_{13}x_{24}}, d_5 = \frac{1}{x_{23}x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, a_{35} = \frac{x_{15}x_{24} + (x_{14}x_{23} - x_{23}x_{24})x_{35}}{(x_{14}x_{23}^2 - x_{13}x_{23}x_{24})x_{35}}, \\ a_{45} &= -\frac{x_{15} + (x_{13} - x_{23})x_{35}}{(x_{14}x_{23} - x_{13}x_{24})x_{35}} \end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$ .

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{23}x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}x_{35} - x_{15}}{x_{13}x_{35}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{(x_{13} - 1)x_{23}x_{35} + x_{15}}{x_{13}x_{24}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{23}x_{35}}, \\ a_{12} &= 0, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{25} + (x_{23}^2 - x_{23})x_{35}}{x_{23}x_{24}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{23}x_{35}}, \\
 a_{12} &= 0, a_{13} = \frac{x_{15}}{x_{23}x_{35}}, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\
 a_{45} &= -\frac{x_{25} + (x_{23}^2 - x_{23})x_{35}}{x_{23}x_{24}x_{35}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{23}x_{35}}, \\
 a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= -\frac{x_{24}}{x_{14}x_{23}}, a_{35} = -\frac{x_{14}x_{25} - (x_{14}x_{23} - x_{23}x_{24})x_{35}}{x_{14}x_{23}^2x_{35}}, \\
 a_{45} &= \frac{1}{x_{14}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{23}x_{35}}, \\
 a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= -\frac{x_{24}}{x_{14}x_{23}}, a_{35} = \frac{x_{15}x_{24} - x_{14}x_{25} + (x_{14}x_{23} - x_{23}x_{24})x_{35}}{x_{14}x_{23}^2x_{35}}, \\
 a_{45} &= \frac{x_{23}x_{35} - x_{15}}{x_{14}x_{23}x_{35}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = -\frac{x_{23}}{x_{13}x_{24}}, d_5 = \frac{1}{x_{23}x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= -\frac{x_{13}x_{25} - (x_{13}x_{23} - x_{23}^2)x_{35}}{x_{13}x_{23}x_{24}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = -\frac{x_{23}}{x_{13}x_{24}}, d_5 = \frac{1}{x_{23}x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{x_{23}x_{35} - x_{15}}{x_{13}x_{23}x_{35}}, \\ a_{45} &= \frac{x_{15}x_{23} - x_{13}x_{25} + (x_{13}x_{23} - x_{23}^2)x_{35}}{x_{13}x_{23}x_{24}x_{35}} \end{aligned}$$

First assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$ .

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{23}}{x_{14}x_{23} - x_{13}x_{24}}, d_5 = \frac{1}{x_{23}x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, a_{35} = -\frac{x_{14}x_{25} - (x_{14}x_{23} - x_{23}x_{24})x_{35}}{(x_{14}x_{23}^2 - x_{13}x_{23}x_{24})x_{35}}, \\ a_{45} &= \frac{x_{13}x_{25} - (x_{13}x_{23} - x_{23}^2)x_{35}}{(x_{14}x_{23}^2 - x_{13}x_{23}x_{24})x_{35}} \end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$ .

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{23}x_{35}}, \\
a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= \frac{x_{23}^2x_{35} + x_{13}x_{25}}{x_{13}x_{23}x_{35}}, a_{24} = 1, a_{25} = 1, \\
a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\
a_{45} &= -\frac{(x_{13} - 1)x_{23}}{x_{13}x_{24}}
\end{aligned}$$

First assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$ .

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{23}}{x_{14}x_{23} - x_{13}x_{24}}, d_5 = \frac{1}{x_{23}x_{35}}, \\
a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
a_{34} &= -\frac{x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, a_{35} = \frac{x_{15}x_{24} - x_{14}x_{25} + (x_{14}x_{23} - x_{23}x_{24})x_{35}}{(x_{14}x_{23}^2 - x_{13}x_{23}x_{24})x_{35}}, \\
a_{45} &= -\frac{x_{15}x_{23} - x_{13}x_{25} + (x_{13}x_{23} - x_{23}^2)x_{35}}{(x_{14}x_{23}^2 - x_{13}x_{23}x_{24})x_{35}}
\end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$ .

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{23}x_{35}}, \\
a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= \frac{x_{23}^2x_{35} - x_{15}x_{23} + x_{13}x_{25}}{x_{13}x_{23}x_{35}}, a_{24} = 1, a_{25} = 1, \\
a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\
a_{45} &= -\frac{(x_{13} - 1)x_{23}x_{35} + x_{15}}{x_{13}x_{24}x_{35}}
\end{aligned}$$

APPENDIX E. SUBCASES OF  $Y_4$ 

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = 0, \\ a_{34} &= 0, a_{35} = 0, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = -\frac{x_{15}}{x_{12}}, \\ a_{34} &= 0, a_{35} = 0, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 0, \\ a_{45} &= -\frac{x_{12}}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 0, \\ a_{45} &= -\frac{x_{12} + x_{15}}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = 0, a_{25} = 0, \\ a_{34} &= 0, a_{35} = 0, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = 0, a_{25} = -\frac{x_{15}}{x_{12}}, \\ a_{34} &= 0, a_{35} = 0, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 0, \\ a_{45} &= -\frac{x_{12}}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 0, \\ a_{45} &= -\frac{x_{12} + x_{15}}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = 0, \\ a_{34} &= 0, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = -\frac{x_{15}}{x_{12}}, \\
 a_{34} &= 0, a_{35} = -\frac{x_{25}}{x_{23}}, \\
 a_{45} &= 1
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = -\frac{x_{25}}{x_{23}}, \\
 a_{45} &= -\frac{x_{12}}{x_{14}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = -\frac{x_{25}}{x_{23}}, \\
 a_{45} &= -\frac{x_{12} + x_{15}}{x_{14}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = 0, a_{25} = \frac{x_{13}x_{25}}{x_{12}x_{23}}, \\ a_{34} &= 0, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = 0, a_{25} = -\frac{x_{15}x_{23} - x_{13}x_{25}}{x_{12}x_{23}}, \\ a_{34} &= 0, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= -\frac{x_{12}x_{23} - x_{13}x_{25}}{x_{14}x_{23}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = -\frac{x_{25}}{x_{23}}, \\
 a_{45} &= \frac{x_{13}x_{25} - (x_{12} + x_{15})x_{23}}{x_{14}x_{23}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = 0, \\
 a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\
 a_{45} &= -\frac{x_{23}}{x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = -\frac{x_{15}}{x_{12}}, \\
 a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\
 a_{45} &= -\frac{x_{23}}{x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = \frac{x_{12}x_{24}}{x_{14}x_{23}}, \\ a_{45} &= -\frac{x_{12}}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = \frac{(x_{12} + x_{15})x_{24}}{x_{14}x_{23}}, \\ a_{45} &= -\frac{x_{12} + x_{15}}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{13}x_{24}}{x_{12}x_{23}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = -\frac{x_{12}}{x_{13}}, \\ a_{45} &= \frac{x_{12}x_{23}}{x_{13}x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{13}x_{24}}{x_{12}x_{23}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = -\frac{x_{12} + x_{15}}{x_{13}}, \\ a_{45} &= \frac{(x_{12} + x_{15})x_{23}}{x_{13}x_{24}} \end{aligned}$$

First assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{14}x_{23} - x_{13}x_{24}}{x_{12}x_{23}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = \frac{x_{12}x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, \\ a_{45} &= -\frac{x_{12}x_{23}}{x_{14}x_{23} - x_{13}x_{24}} \end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = 0, a_{25} = 0, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{23}}{x_{24}} \end{aligned}$$

First assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{14}x_{23} - x_{13}x_{24}}{x_{12}x_{23}}, a_{25} = 1, \\
 a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = \frac{(x_{12} + x_{15})x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, \\
 a_{45} &= -\frac{(x_{12} + x_{15})x_{23}}{x_{14}x_{23} - x_{13}x_{24}}
 \end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = 0, a_{25} = -\frac{x_{15}}{x_{12}}, \\
 a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\
 a_{45} &= -\frac{x_{23}}{x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = 0, \\
 a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\
 a_{45} &= -\frac{x_{23} + x_{25}}{x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = -\frac{x_{15}}{x_{12}}, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{23} + x_{25}}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = \frac{x_{12}x_{24} - x_{14}x_{25}}{x_{14}x_{23}}, \\ a_{45} &= -\frac{x_{12}}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = -\frac{x_{14}x_{25} - (x_{12} + x_{15})x_{24}}{x_{14}x_{23}}, \\ a_{45} &= -\frac{x_{12} + x_{15}}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{13}x_{24}}{x_{12}x_{23}}, a_{25} = 1, \\
 a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = -\frac{x_{12}}{x_{13}}, \\
 a_{45} &= \frac{x_{12}x_{23} - x_{13}x_{25}}{x_{13}x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{13}x_{24}}{x_{12}x_{23}}, a_{25} = 1, \\
 a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = -\frac{x_{12} + x_{15}}{x_{13}}, \\
 a_{45} &= -\frac{x_{13}x_{25} - (x_{12} + x_{15})x_{23}}{x_{13}x_{24}}
 \end{aligned}$$

First assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{14}x_{23} - x_{13}x_{24}}{x_{12}x_{23}}, a_{25} = 1, \\
 a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = \frac{x_{12}x_{24} - x_{14}x_{25}}{x_{14}x_{23} - x_{13}x_{24}}, \\
 a_{45} &= -\frac{x_{12}x_{23} - x_{13}x_{25}}{x_{14}x_{23} - x_{13}x_{24}}
 \end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = 0, a_{25} = \frac{x_{13}x_{25}}{x_{12}x_{23}}, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{23} + x_{25}}{x_{24}} \end{aligned}$$

First assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{14}x_{23} - x_{13}x_{24}}{x_{12}x_{23}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = -\frac{x_{14}x_{25} - (x_{12} + x_{15})x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, \\ a_{45} &= \frac{x_{13}x_{25} - (x_{12} + x_{15})x_{23}}{x_{14}x_{23} - x_{13}x_{24}} \end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = 0, a_{25} = -\frac{x_{15}x_{23} - x_{13}x_{25}}{x_{12}x_{23}}, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{23} + x_{25}}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= 0, a_{35} = \frac{1}{x_{12}x_{23}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = \frac{x_{12}x_{23}x_{35} - x_{15}}{x_{12}^2x_{23}x_{35}}, \\ a_{34} &= 0, a_{35} = \frac{1}{x_{12}x_{23}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{1}{x_{12}x_{23}}, \\ a_{45} &= -\frac{x_{12} - 1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\
a_{34} &= 0, a_{35} = \frac{1}{x_{12}x_{23}}, \\
a_{45} &= -\frac{(x_{12}^2 - x_{12})x_{23}x_{35} + x_{15}}{x_{12}x_{14}x_{23}x_{35}}
\end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = 0, a_{25} = \frac{x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2}{x_{12}^3x_{23}^2}, \\
a_{34} &= 0, a_{35} = \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}^2}, \\
a_{45} &= 1
\end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = 0, a_{25} = -\frac{x_{12}x_{15}x_{23} - (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{35}}{x_{12}^3x_{23}^2x_{35}}, \\
a_{34} &= 0, a_{35} = \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}^2}, \\
a_{45} &= 1
\end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}^2}, \\
 a_{45} &= -\frac{x_{12}x_{13}x_{23} - x_{13}^2 + (x_{12}^3 - x_{12}^2)x_{23}^2}{x_{12}^2x_{14}x_{23}^2}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}^2}, \\
 a_{45} &= -\frac{x_{12}x_{15}x_{23} + (x_{12}x_{13}x_{23} - x_{13}^2 + (x_{12}^3 - x_{12}^2)x_{23}^2)x_{35}}{x_{12}^2x_{14}x_{23}^2x_{35}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = \frac{1}{x_{12}}, \\
 a_{34} &= 0, a_{35} = \frac{x_{23}x_{35} - x_{25}}{x_{12}x_{23}^2x_{35}}, \\
 a_{45} &= 1
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = \frac{x_{12}x_{23}x_{35} - x_{15}}{x_{12}^2x_{23}x_{35}}, \\
a_{34} &= 0, a_{35} = \frac{x_{23}x_{35} - x_{25}}{x_{12}x_{23}^2x_{35}}, \\
a_{45} &= 1
\end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\
a_{34} &= 0, a_{35} = \frac{x_{23}x_{35} - x_{25}}{x_{12}x_{23}^2x_{35}}, \\
a_{45} &= -\frac{x_{12} - 1}{x_{14}}
\end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\
a_{34} &= 0, a_{35} = \frac{x_{23}x_{35} - x_{25}}{x_{12}x_{23}^2x_{35}}, \\
a_{45} &= -\frac{(x_{12}^2 - x_{12})x_{23}x_{35} + x_{15}}{x_{12}x_{14}x_{23}x_{35}}
\end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = 0, a_{25} = \frac{x_{12}x_{13}x_{25} + (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{35}}{x_{12}^3x_{23}^2x_{35}}, \\
 a_{34} &= 0, a_{35} = -\frac{x_{12}x_{25} - (x_{12}x_{23} - x_{13})x_{35}}{x_{12}^2x_{23}^2x_{35}}, \\
 a_{45} &= 1
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = 0, a_{25} = -\frac{x_{12}x_{15}x_{23} - x_{12}x_{13}x_{25} - (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{35}}{x_{12}^3x_{23}^2x_{35}}, \\
 a_{34} &= 0, a_{35} = -\frac{x_{12}x_{25} - (x_{12}x_{23} - x_{13})x_{35}}{x_{12}^2x_{23}^2x_{35}}, \\
 a_{45} &= 1
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = -\frac{x_{12}x_{25} - (x_{12}x_{23} - x_{13})x_{35}}{x_{12}^2x_{23}^2x_{35}}, \\
 a_{45} &= \frac{x_{12}x_{13}x_{25} - (x_{12}x_{13}x_{23} - x_{13}^2 + (x_{12}^3 - x_{12}^2)x_{23}^2)x_{35}}{x_{12}^2x_{14}x_{23}^2x_{35}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\
a_{34} &= 0, a_{35} = -\frac{x_{12}x_{25} - (x_{12}x_{23} - x_{13})x_{35}}{x_{12}^2x_{23}^2x_{35}}, \\
a_{45} &= -\frac{x_{12}x_{15}x_{23} - x_{12}x_{13}x_{25} + (x_{12}x_{13}x_{23} - x_{13}^2 + (x_{12}^3 - x_{12}^2)x_{23}^2)x_{35}}{x_{12}^2x_{14}x_{23}^2x_{35}}
\end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = \frac{1}{x_{12}}, \\
a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\
a_{45} &= -\frac{x_{12}x_{23} - 1}{x_{12}x_{24}}
\end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = \frac{x_{12}x_{23}x_{35} - x_{15}}{x_{12}^2x_{23}x_{35}}, \\
a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\
a_{45} &= -\frac{x_{12}x_{23} - 1}{x_{12}x_{24}}
\end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = \frac{x_{14} + (x_{12}^2 - x_{12})x_{24}}{x_{12}x_{14}x_{23}}, \\ a_{45} &= -\frac{x_{12} - 1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = \frac{x_{15}x_{24} + (x_{14}x_{23} + (x_{12}^2 - x_{12})x_{23}x_{24})x_{35}}{x_{12}x_{14}x_{23}^2x_{35}}, \\ a_{45} &= -\frac{(x_{12}^2 - x_{12})x_{23}x_{35} + x_{15}}{x_{12}x_{14}x_{23}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{13}x_{24}}{x_{12}x_{23}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= \frac{x_{12}x_{13}x_{23} - x_{13}^2 + (x_{12}^3 - x_{12}^2)x_{23}^2}{x_{12}^2x_{13}x_{23}x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{13}x_{24}}{x_{12}x_{23}}, a_{25} = 1, \\
a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = -\frac{(x_{12}^2 - x_{12})x_{23}x_{35} + x_{15}}{x_{12}x_{13}x_{23}x_{35}}, \\
a_{45} &= \frac{x_{12}x_{15}x_{23} + (x_{12}x_{13}x_{23} - x_{13}^2 + (x_{12}^3 - x_{12}^2)x_{23}^2)x_{35}}{x_{12}^2x_{13}x_{23}x_{24}x_{35}}
\end{aligned}$$

First assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{14}x_{23} - x_{13}x_{24}}{x_{12}x_{23}}, a_{25} = 1, \\
a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = \frac{x_{12}x_{14}x_{23} - x_{13}x_{14} + (x_{12}^3 - x_{12}^2)x_{23}x_{24}}{x_{12}^2x_{14}x_{23}^2 - x_{12}^2x_{13}x_{23}x_{24}}, \\
a_{45} &= -\frac{x_{12}x_{13}x_{23} - x_{13}^2 + (x_{12}^3 - x_{12}^2)x_{23}^2}{x_{12}^2x_{14}x_{23}^2 - x_{12}^2x_{13}x_{23}x_{24}}
\end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = 0, a_{25} = \frac{x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2}{x_{12}^3x_{23}^2}, \\
a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\
a_{45} &= -\frac{x_{12}^2x_{23}^2 - x_{12}x_{23} + x_{13}}{x_{12}^2x_{23}x_{24}}
\end{aligned}$$



First assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{14}x_{23} - x_{13}x_{24}}{x_{12}x_{23}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = \frac{x_{12}x_{15}x_{24} + (x_{12}x_{14}x_{23} - x_{13}x_{14} + (x_{12}^3 - x_{12}^2)x_{23}x_{24})x_{35}}{(x_{12}^2x_{14}x_{23}^2 - x_{12}^2x_{13}x_{23}x_{24})x_{35}}, \\ a_{45} &= -\frac{x_{12}x_{15}x_{23} + (x_{12}x_{13}x_{23} - x_{13}^2 + (x_{12}^3 - x_{12}^2)x_{23}^2)x_{35}}{(x_{12}^2x_{14}x_{23}^2 - x_{12}^2x_{13}x_{23}x_{24})x_{35}} \end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = 0, a_{25} = -\frac{x_{12}x_{15}x_{23} - (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{35}}{x_{12}^3x_{23}^2x_{35}}, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{12}^2x_{23}^2 - x_{12}x_{23} + x_{13}}{x_{12}^2x_{23}x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{25} + (x_{12}x_{23}^2 - x_{23})x_{35}}{x_{12}x_{23}x_{24}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = \frac{x_{12}x_{23}x_{35} - x_{15}}{x_{12}^2x_{23}x_{35}}, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{25} + (x_{12}x_{23}^2 - x_{23})x_{35}}{x_{12}x_{23}x_{24}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = -\frac{x_{14}x_{25} - (x_{14}x_{23} + (x_{12}^2 - x_{12})x_{23}x_{24})x_{35}}{x_{12}x_{14}x_{23}^2x_{35}}, \\ a_{45} &= -\frac{x_{12} - 1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = \frac{x_{15}x_{24} - x_{14}x_{25} + (x_{14}x_{23} + (x_{12}^2 - x_{12})x_{23}x_{24})x_{35}}{x_{12}x_{14}x_{23}^2x_{35}}, \\ a_{45} &= -\frac{(x_{12}^2 - x_{12})x_{23}x_{35} + x_{15}}{x_{12}x_{14}x_{23}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{13}x_{24}}{x_{12}x_{23}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= -\frac{x_{12}x_{13}x_{25} - (x_{12}x_{13}x_{23} - x_{13}^2 + (x_{12}^3 - x_{12}^2)x_{23}^2)x_{35}}{x_{12}^2x_{13}x_{23}x_{24}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{13}x_{24}}{x_{12}x_{23}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = -\frac{(x_{12}^2 - x_{12})x_{23}x_{35} + x_{15}}{x_{12}x_{13}x_{23}x_{35}}, \\ a_{45} &= \frac{x_{12}x_{15}x_{23} - x_{12}x_{13}x_{25} + (x_{12}x_{13}x_{23} - x_{13}^2 + (x_{12}^3 - x_{12}^2)x_{23}^2)x_{35}}{x_{12}^2x_{13}x_{23}x_{24}x_{35}} \end{aligned}$$

First assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{14}x_{23} - x_{13}x_{24}}{x_{12}x_{23}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = -\frac{x_{12}x_{14}x_{25} - (x_{12}x_{14}x_{23} - x_{13}x_{14} + (x_{12}^3 - x_{12}^2)x_{23}x_{24})x_{35}}{(x_{12}^2x_{14}x_{23}^2 - x_{12}^2x_{13}x_{23}x_{24})x_{35}}, \\ a_{45} &= \frac{x_{12}x_{13}x_{25} - (x_{12}x_{13}x_{23} - x_{13}^2 + (x_{12}^3 - x_{12}^2)x_{23}^2)x_{35}}{(x_{12}^2x_{14}x_{23}^2 - x_{12}^2x_{13}x_{23}x_{24})x_{35}} \end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = 0, a_{25} = \frac{x_{12}x_{13}x_{25} + (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{35}}{x_{12}^3x_{23}^2x_{35}}, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{12}x_{25} + (x_{12}^2x_{23}^2 - x_{12}x_{23} + x_{13})x_{35}}{x_{12}^2x_{23}x_{24}x_{35}} \end{aligned}$$

First assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{14}x_{23} - x_{13}x_{24}}{x_{12}x_{23}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = \frac{x_{12}x_{15}x_{24} - x_{12}x_{14}x_{25} + (x_{12}x_{14}x_{23} - x_{13}x_{14} + (x_{12}^3 - x_{12}^2)x_{23}x_{24})x_{35}}{(x_{12}^2x_{14}x_{23}^2 - x_{12}^2x_{13}x_{23}x_{24})x_{35}}, \\ a_{45} &= -\frac{x_{12}x_{15}x_{23} - x_{12}x_{13}x_{25} + (x_{12}x_{13}x_{23} - x_{13}^2 + (x_{12}^3 - x_{12}^2)x_{23}^2)x_{35}}{(x_{12}^2x_{14}x_{23}^2 - x_{12}^2x_{13}x_{23}x_{24})x_{35}} \end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = 0, a_{25} = -\frac{x_{12}x_{15}x_{23} - x_{12}x_{13}x_{25} - (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{35}}{x_{12}^3x_{23}^2x_{35}}, \\
a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\
a_{45} &= -\frac{x_{12}x_{25} + (x_{12}^2x_{23}^2 - x_{12}x_{23} + x_{13})x_{35}}{x_{12}^2x_{23}x_{24}x_{35}}
\end{aligned}$$

#### APPENDIX F. SUBCASES OF $Y_5$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\
a_{12} &= 0, a_{13} = 1, a_{14} = 0, a_{15} = 1, \\
a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
a_{34} &= 0, a_{35} = \frac{1}{x_{23}}, \\
a_{45} &= 1
\end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\
a_{12} &= 0, a_{13} = 1, a_{14} = \frac{x_{15}}{x_{45}}, a_{15} = 1, \\
a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
a_{34} &= 0, a_{35} = \frac{1}{x_{23}}, \\
a_{45} &= 1
\end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{1}{x_{23}}, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{1}{x_{23}}, \\ a_{45} &= \frac{x_{14}x_{45} - x_{15}}{x_{14}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = \frac{x_{23}}{x_{13}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = -\frac{x_{15}x_{23} - x_{23}x_{45}}{x_{13}x_{45}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{15} - x_{45}}{x_{13}x_{45}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{1}{x_{23}}, \\ a_{45} &= -\frac{x_{13} - x_{23}}{x_{14}x_{23}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{1}{x_{23}}, \\ a_{45} &= -\frac{x_{15}x_{23} + (x_{13}x_{14} - x_{14}x_{23})x_{45}}{x_{14}^2x_{23}x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 0, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{25} - x_{45}}{x_{23}x_{45}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = \frac{x_{15}}{x_{45}}, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{25} - x_{45}}{x_{23}x_{45}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{x_{14}x_{45} - x_{25}}{x_{14}x_{23}x_{45}}, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{x_{14}x_{45} - x_{25}}{x_{14}x_{23}x_{45}}, \\ a_{45} &= \frac{x_{14}x_{45} - x_{15}}{x_{14}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = \frac{x_{13}x_{25} + x_{23}x_{45}}{x_{13}x_{45}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = -\frac{x_{15}x_{23} - x_{13}x_{25} - x_{23}x_{45}}{x_{13}x_{45}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{15} - x_{45}}{x_{13}x_{45}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{x_{14}x_{45} - x_{25}}{x_{14}x_{23}x_{45}}, \\ a_{45} &= \frac{x_{13}x_{25} - (x_{13}x_{14} - x_{14}x_{23})x_{45}}{x_{14}^2x_{23}x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{x_{14}x_{45} - x_{25}}{x_{14}x_{23}x_{45}}, \\ a_{45} &= -\frac{x_{15}x_{23} - x_{13}x_{25} + (x_{13}x_{14} - x_{14}x_{23})x_{45}}{x_{14}^2x_{23}x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = -1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{1}{x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{23} - 2}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = -\frac{x_{24}x_{45} - x_{15}}{x_{24}x_{45}}, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{1}{x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{23} - 2}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{x_{24}}{x_{14}}, d_3 = \frac{x_{24}}{x_{14}x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14}x_{23}}, a_{35} = \frac{2x_{14} - 2x_{24}}{x_{14}x_{23}}, \\ a_{45} &= \frac{2}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{x_{24}}{x_{14}}, d_3 = \frac{x_{24}}{x_{14}x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14}x_{23}}, a_{35} = \frac{x_{15}x_{24} + (2x_{14}^2 - 2x_{14}x_{24})x_{45}}{x_{14}^2x_{23}x_{45}}, \\ a_{45} &= \frac{2x_{14}x_{45} - x_{15}}{x_{14}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = -\frac{x_{23}}{x_{13}}, d_3 = -\frac{1}{x_{13}}, d_4 = -\frac{x_{23}}{x_{13}x_{24}}, d_5 = -\frac{x_{23}}{x_{13}x_{24}x_{45}}, \\ a_{12} &= -1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{2}{x_{13}}, \\ a_{45} &= \frac{2x_{13} - 2x_{23}}{x_{13}x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = -\frac{x_{23}}{x_{13}}, d_3 = -\frac{1}{x_{13}}, d_4 = -\frac{x_{23}}{x_{13}x_{24}}, d_5 = -\frac{x_{23}}{x_{13}x_{24}x_{45}}, \\ a_{12} &= -1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{2x_{13}x_{24}x_{45} + x_{15}x_{23}}{x_{13}^2x_{24}x_{45}}, \\ a_{45} &= -\frac{x_{15}x_{23}^2 - (2x_{13}^2 - 2x_{13}x_{23})x_{24}x_{45}}{x_{13}^2x_{24}^2x_{45}} \end{aligned}$$

First assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{x_{23}x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, d_3 = \frac{x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, d_4 = \frac{x_{23}}{x_{14}x_{23} - x_{13}x_{24}}, d_5 = \frac{x_{23}}{(x_{14}x_{23} - x_{13}x_{24})x_{45}}, \\ a_{12} &= \frac{x_{13}x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, a_{35} = \frac{2x_{14} - 2x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, \\ a_{45} &= -\frac{2x_{13} - 2x_{23}}{x_{14}x_{23} - x_{13}x_{24}} \end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = -\frac{x_{13} - 2x_{23}}{x_{13}}, a_{25} = 1, \\ a_{34} &= -\frac{1}{x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{(x_{13} - 2)x_{23}}{x_{13}x_{24}} \end{aligned}$$

First assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{x_{23}x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, d_3 = \frac{x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, d_4 = \frac{x_{23}}{x_{14}x_{23} - x_{13}x_{24}}, d_5 = \frac{x_{23}}{(x_{14}x_{23} - x_{13}x_{24})x_{45}}, \\ a_{12} &= \frac{x_{13}x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, a_{35} = \frac{x_{15}x_{23}x_{24} + (2x_{14}^2x_{23} + 2x_{13}x_{24}^2 - (2x_{13}x_{14} + 2x_{14}x_{23})x_{24})x_{45}}{(x_{14}^2x_{23}^2 - 2x_{13}x_{14}x_{23}x_{24} + x_{13}^2x_{24}^2)x_{45}}, \\ a_{45} &= -\frac{x_{15}x_{23}^2 + (2x_{13}x_{14}x_{23} - 2x_{14}x_{23}^2 - (2x_{13}^2 - 2x_{13}x_{23})x_{24})x_{45}}{(x_{14}^2x_{23}^2 - 2x_{13}x_{14}x_{23}x_{24} + x_{13}^2x_{24}^2)x_{45}} \end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = -\frac{x_{15}x_{23} + (x_{13} - 2x_{23})x_{24}x_{45}}{x_{13}x_{24}x_{45}}, a_{25} = 1, \\ a_{34} &= -\frac{1}{x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{(x_{13} - 2)x_{23}x_{24}x_{45} + x_{15}x_{23}}{x_{13}x_{24}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = -1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{1}{x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{(x_{23} - 2)x_{24}x_{45} + x_{25}}{x_{24}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = -\frac{x_{24}x_{45} - x_{15}}{x_{24}x_{45}}, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{1}{x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{(x_{23} - 2)x_{24}x_{45} + x_{25}}{x_{24}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{x_{24}}{x_{14}}, d_3 = \frac{x_{24}}{x_{14}x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14}x_{23}}, a_{35} = -\frac{x_{25} - (2x_{14} - 2x_{24})x_{45}}{x_{14}x_{23}x_{45}}, \\ a_{45} &= \frac{2}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{x_{24}}{x_{14}}, d_3 = \frac{x_{24}}{x_{14}x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14}x_{23}}, a_{35} = \frac{x_{15}x_{24} - x_{14}x_{25} + (2x_{14}^2 - 2x_{14}x_{24})x_{45}}{x_{14}^2x_{23}x_{45}}, \\ a_{45} &= \frac{2x_{14}x_{45} - x_{15}}{x_{14}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = -\frac{x_{23}}{x_{13}}, d_3 = -\frac{1}{x_{13}}, d_4 = -\frac{x_{23}}{x_{13}x_{24}}, d_5 = -\frac{x_{23}}{x_{13}x_{24}x_{45}}, \\ a_{12} &= -1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{2}{x_{13}}, \\ a_{45} &= \frac{x_{23}x_{25} + (2x_{13} - 2x_{23})x_{24}x_{45}}{x_{13}x_{24}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = -\frac{x_{23}}{x_{13}}, d_3 = -\frac{1}{x_{13}}, d_4 = -\frac{x_{23}}{x_{13}x_{24}}, d_5 = -\frac{x_{23}}{x_{13}x_{24}x_{45}}, \\ a_{12} &= -1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{2x_{13}x_{24}x_{45} + x_{15}x_{23}}{x_{13}^2x_{24}x_{45}}, \\ a_{45} &= -\frac{x_{15}x_{23}^2 - x_{13}x_{23}x_{25} - (2x_{13}^2 - 2x_{13}x_{23})x_{24}x_{45}}{x_{13}^2x_{24}^2x_{45}} \end{aligned}$$

First assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{x_{23}x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, d_3 = \frac{x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, d_4 = \frac{x_{23}}{x_{14}x_{23} - x_{13}x_{24}}, d_5 = \frac{x_{23}}{(x_{14}x_{23} - x_{13}x_{24})x_{45}}, \\ a_{12} &= \frac{x_{13}x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, a_{35} = -\frac{x_{14}x_{23}x_{25} - (2x_{14}^2x_{23} + 2x_{13}x_{24}^2 - (2x_{13}x_{14} + 2x_{14}x_{23})x_{24})x_{45}}{(x_{14}^2x_{23}^2 - 2x_{13}x_{14}x_{23}x_{24} + x_{13}^2x_{24}^2)x_{45}}, \\ a_{45} &= \frac{x_{13}x_{23}x_{25} - (2x_{13}x_{14}x_{23} - 2x_{14}x_{23}^2 - (2x_{13}^2 - 2x_{13}x_{23})x_{24})x_{45}}{(x_{14}^2x_{23}^2 - 2x_{13}x_{14}x_{23}x_{24} + x_{13}^2x_{24}^2)x_{45}} \end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = \frac{x_{13}x_{25} - (x_{13} - 2x_{23})x_{24}x_{45}}{x_{13}x_{24}x_{45}}, a_{25} = 1, \\ a_{34} &= -\frac{1}{x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{(x_{13} - 2)x_{23}}{x_{13}x_{24}} \end{aligned}$$

First assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{x_{23}x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, d_3 = \frac{x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, d_4 = \frac{x_{23}}{x_{14}x_{23} - x_{13}x_{24}}, d_5 = \frac{x_{23}}{(x_{14}x_{23} - x_{13}x_{24})x_{45}}, \\ a_{12} &= \frac{x_{13}x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, a_{35} = \frac{x_{15}x_{23}x_{24} - x_{14}x_{23}x_{25} + (2x_{14}^2x_{23} + 2x_{13}x_{24}^2 - (2x_{13}x_{14} + 2x_{14}x_{23})x_{24})x_{45}}{(x_{14}^2x_{23}^2 - 2x_{13}x_{14}x_{23}x_{24} + x_{13}^2x_{24}^2)x_{45}}, \\ a_{45} &= -\frac{x_{15}x_{23}^2 - x_{13}x_{23}x_{25} + (2x_{13}x_{14}x_{23} - 2x_{14}x_{23}^2 - (2x_{13}^2 - 2x_{13}x_{23})x_{24})x_{45}}{(x_{14}^2x_{23}^2 - 2x_{13}x_{14}x_{23}x_{24} + x_{13}^2x_{24}^2)x_{45}} \end{aligned}$$



Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = -\frac{x_{15}x_{23} - x_{13}x_{25} + (x_{13} - 2x_{23})x_{24}x_{45}}{x_{13}x_{24}x_{45}}, a_{25} = 1, \\ a_{34} &= -\frac{1}{x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{(x_{13} - 2)x_{23}x_{24}x_{45} + x_{15}x_{23}}{x_{13}x_{24}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{45}}{x_{23}x_{35}}, d_5 = \frac{1}{x_{23}x_{35}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = -1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{2}{x_{23}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{45}}{x_{23}x_{35}}, d_5 = \frac{1}{x_{23}x_{35}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = -\frac{x_{23}x_{35} - x_{15}}{x_{23}x_{35}}, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{2}{x_{23}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{x_{23}x_{35}}{x_{14}x_{45}}, d_3 = \frac{x_{35}}{x_{14}x_{45}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{2}{x_{23}}, \\ a_{45} &= \frac{2}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{x_{23}x_{35}}{x_{14}x_{45}}, d_3 = \frac{x_{35}}{x_{14}x_{45}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{2}{x_{23}}, \\ a_{45} &= \frac{2x_{14}x_{45} - x_{15}}{x_{14}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{45}}{x_{23}x_{35}}, d_5 = \frac{1}{x_{23}x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = -\frac{x_{13} - 2x_{23}}{x_{13}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{2}{x_{13}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{45}}{x_{23}x_{35}}, d_5 = \frac{1}{x_{23}x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = -\frac{x_{15} + (x_{13} - 2x_{23})x_{35}}{x_{13}x_{35}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{2x_{23}x_{35} - x_{15}}{x_{13}x_{23}x_{35}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{x_{23}x_{35}}{x_{14}x_{45}}, d_3 = \frac{x_{35}}{x_{14}x_{45}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= \frac{x_{13}x_{35}}{x_{14}x_{45}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{2}{x_{23}}, \\ a_{45} &= -\frac{2x_{13} - 2x_{23}}{x_{14}x_{23}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{x_{23}x_{35}}{x_{14}x_{45}}, d_3 = \frac{x_{35}}{x_{14}x_{45}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= \frac{x_{13}x_{35}}{x_{14}x_{45}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{2}{x_{23}}, \\ a_{45} &= -\frac{x_{15}x_{23} + (2x_{13}x_{14} - 2x_{14}x_{23})x_{45}}{x_{14}^2x_{23}x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{45}}{x_{23}x_{35}}, d_5 = \frac{1}{x_{23}x_{35}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = -1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{2x_{23}x_{35} - x_{25}}{x_{23}^2x_{35}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{45}}{x_{23}x_{35}}, d_5 = \frac{1}{x_{23}x_{35}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = -\frac{x_{23}x_{35} - x_{15}}{x_{23}x_{35}}, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{2x_{23}x_{35} - x_{25}}{x_{23}^2x_{35}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{x_{23}x_{35}}{x_{14}x_{45}}, d_3 = \frac{x_{35}}{x_{14}x_{45}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{2x_{14}x_{45} - x_{25}}{x_{14}x_{23}x_{45}}, \\ a_{45} &= \frac{2}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{x_{23}x_{35}}{x_{14}x_{45}}, d_3 = \frac{x_{35}}{x_{14}x_{45}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{2x_{14}x_{45} - x_{25}}{x_{14}x_{23}x_{45}}, \\ a_{45} &= \frac{2x_{14}x_{45} - x_{15}}{x_{14}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{45}}{x_{23}x_{35}}, d_5 = \frac{1}{x_{23}x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = \frac{x_{13}x_{25} - (x_{13}x_{23} - 2x_{23}^2)x_{35}}{x_{13}x_{23}x_{35}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{2}{x_{13}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{45}}{x_{23}x_{35}}, d_5 = \frac{1}{x_{23}x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = -\frac{x_{15}x_{23} - x_{13}x_{25} + (x_{13}x_{23} - 2x_{23}^2)x_{35}}{x_{13}x_{23}x_{35}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{2x_{23}x_{35} - x_{15}}{x_{13}x_{23}x_{35}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{x_{23}x_{35}}{x_{14}x_{45}}, d_3 = \frac{x_{35}}{x_{14}x_{45}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= \frac{x_{13}x_{35}}{x_{14}x_{45}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{2x_{14}x_{45} - x_{25}}{x_{14}x_{23}x_{45}}, \\ a_{45} &= \frac{x_{13}x_{25} - (2x_{13}x_{14} - 2x_{14}x_{23})x_{45}}{x_{14}^2x_{23}x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{x_{23}x_{35}}{x_{14}x_{45}}, d_3 = \frac{x_{35}}{x_{14}x_{45}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= \frac{x_{13}x_{35}}{x_{14}x_{45}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{2x_{14}x_{45} - x_{25}}{x_{14}x_{23}x_{45}}, \\ a_{45} &= -\frac{x_{15}x_{23} - x_{13}x_{25} + (2x_{13}x_{14} - 2x_{14}x_{23})x_{45}}{x_{14}^2x_{23}x_{45}} \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{35}x_{23}}{x_{45}}$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{45}}{x_{23}x_{35} + x_{24}x_{45}}, d_5 = \frac{1}{x_{23}x_{35} + x_{24}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = -1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}x_{45}}{x_{23}^2x_{35} + x_{23}x_{24}x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{23} - 2}{x_{24}} \end{aligned}$$

First assume  $x_{24} = \frac{-x_{35}x_{23}}{x_{45}}$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 0, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{(x_{23} - 1)x_{45}}{x_{23}x_{35}} \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{35}x_{23}}{x_{45}}$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{45}}{x_{23}x_{35} + x_{24}x_{45}}, d_5 = \frac{1}{x_{23}x_{35} + x_{24}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = -\frac{x_{23}x_{35} + x_{24}x_{45} - x_{15}}{x_{23}x_{35} + x_{24}x_{45}}, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}x_{45}}{x_{23}^2x_{35} + x_{23}x_{24}x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{23} - 2}{x_{24}} \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{35}x_{23}}{x_{45}}$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = \frac{x_{15}}{x_{45}}, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{(x_{23} - 1)x_{45}}{x_{23}x_{35}} \end{aligned}$$

First assume  $x_{35} \neq \frac{-x_{45}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{x_{23}x_{35} + x_{24}x_{45}}{x_{14}x_{45}}, d_3 = \frac{x_{23}x_{35} + x_{24}x_{45}}{x_{14}x_{23}x_{45}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14}x_{23}}, a_{35} = \frac{2x_{14} - 2x_{24}}{x_{14}x_{23}}, \\ a_{45} &= \frac{2}{x_{14}} \end{aligned}$$

Now assume  $x_{35} = \frac{-x_{45}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14}x_{23}}, a_{35} = \frac{x_{14} - x_{24}}{x_{14}x_{23}}, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

First assume  $x_{35} \neq \frac{-x_{45}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{x_{23}x_{35} + x_{24}x_{45}}{x_{14}x_{45}}, d_3 = \frac{x_{23}x_{35} + x_{24}x_{45}}{x_{14}x_{23}x_{45}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14}x_{23}}, a_{35} = \frac{x_{15}x_{24} + (2x_{14}^2 - 2x_{14}x_{24})x_{45}}{x_{14}^2x_{23}x_{45}}, \\ a_{45} &= \frac{2x_{14}x_{45} - x_{15}}{x_{14}^2x_{45}} \end{aligned}$$

Now assume  $x_{35} = \frac{-x_{45}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14}x_{23}}, a_{35} = \frac{x_{15}x_{24} + (x_{14}^2 - x_{14}x_{24})x_{45}}{x_{14}^2x_{23}x_{45}}, \\ a_{45} &= \frac{x_{14}x_{45} - x_{15}}{x_{14}^2x_{45}} \end{aligned}$$

First assume  $x_{35} \neq \frac{-x_{45}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = -\frac{x_{23}^2x_{35} + x_{23}x_{24}x_{45}}{x_{13}x_{24}x_{45}}, d_3 = -\frac{x_{23}x_{35} + x_{24}x_{45}}{x_{13}x_{24}x_{45}}, d_4 = -\frac{x_{23}}{x_{13}x_{24}}, d_5 = -\frac{x_{23}}{x_{13}x_{24}x_{45}}, \\ a_{12} &= -\frac{x_{23}x_{35} + x_{24}x_{45}}{x_{24}x_{45}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{2}{x_{13}}, \\ a_{45} &= \frac{2x_{13} - 2x_{23}}{x_{13}x_{24}} \end{aligned}$$

Now assume  $x_{35} = \frac{-x_{45}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = -\frac{x_{23}}{x_{13}x_{24}}, d_5 = -\frac{x_{23}}{x_{13}x_{24}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= \frac{x_{13} - x_{23}}{x_{13}x_{24}} \end{aligned}$$

First assume  $x_{35} \neq \frac{-x_{45}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = -\frac{x_{23}^2 x_{35} + x_{23} x_{24} x_{45}}{x_{13} x_{24} x_{45}}, d_3 = -\frac{x_{23} x_{35} + x_{24} x_{45}}{x_{13} x_{24} x_{45}}, d_4 = -\frac{x_{23}}{x_{13} x_{24}}, d_5 = -\frac{x_{23}}{x_{13} x_{24} x_{45}}, \\ a_{12} &= -\frac{x_{23} x_{35} + x_{24} x_{45}}{x_{24} x_{45}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{2 x_{13} x_{24} x_{45} + x_{15} x_{23}}{x_{13}^2 x_{24} x_{45}}, \\ a_{45} &= -\frac{x_{15} x_{23}^2 - (2 x_{13}^2 - 2 x_{13} x_{23}) x_{24} x_{45}}{x_{13}^2 x_{24}^2 x_{45}} \end{aligned}$$

Now assume  $x_{35} = \frac{-x_{45} x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = -\frac{x_{23}}{x_{13} x_{24}}, d_5 = -\frac{x_{23}}{x_{13} x_{24} x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{x_{13} x_{24} x_{45} + x_{15} x_{23}}{x_{13}^2 x_{24} x_{45}}, \\ a_{45} &= -\frac{x_{15} x_{23}^2 - (x_{13}^2 - x_{13} x_{23}) x_{24} x_{45}}{x_{13}^2 x_{24}^2 x_{45}} \end{aligned}$$

First assume  $x_{14} \neq \frac{x_{13} x_{24}}{x_{23}}$  and  $x_{35} \neq \frac{-x_{45} x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{x_{23}^2 x_{35} + x_{23} x_{24} x_{45}}{(x_{14} x_{23} - x_{13} x_{24}) x_{45}}, d_3 = \frac{x_{23} x_{35} + x_{24} x_{45}}{(x_{14} x_{23} - x_{13} x_{24}) x_{45}}, d_4 = \frac{x_{23}}{x_{14} x_{23} - x_{13} x_{24}}, d_5 = \frac{x_{23}}{(x_{14} x_{23} - x_{13} x_{24}) x_{45}}, \\ a_{12} &= \frac{x_{13} x_{23} x_{35} + x_{13} x_{24} x_{45}}{(x_{14} x_{23} - x_{13} x_{24}) x_{45}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14} x_{23} - x_{13} x_{24}}, a_{35} = \frac{2 x_{14} - 2 x_{24}}{x_{14} x_{23} - x_{13} x_{24}}, \\ a_{45} &= -\frac{2 x_{13} - 2 x_{23}}{x_{14} x_{23} - x_{13} x_{24}} \end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$  and  $x_{24} \neq \frac{-x_{23}x_{35}}{x_{45}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{45}}{x_{23}x_{35} + x_{24}x_{45}}, d_5 = \frac{1}{x_{23}x_{35} + x_{24}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = -\frac{x_{13} - 2x_{23}}{x_{13}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}x_{45}}{x_{23}^2x_{35} + x_{23}x_{24}x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{(x_{13} - 2)x_{23}}{x_{13}x_{24}} \end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$  and  $x_{24} = \frac{-x_{23}x_{35}}{x_{45}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = \frac{x_{23}}{x_{13}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{(x_{13} - 1)x_{45}}{x_{13}x_{35}} \end{aligned}$$

Now assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$ ,  $x_{24} = \frac{-x_{23}x_{35}}{x_{45}}$  and  $x_{13} \neq \frac{-x_{14}x_{45}}{x_{35}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{45}}{x_{13}x_{35} + x_{14}x_{45}}, d_5 = \frac{1}{x_{13}x_{35} + x_{14}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{13}x_{35} + x_{14}x_{45}}, a_{35} = \frac{x_{23}x_{35} + x_{14}x_{45}}{x_{13}x_{23}x_{35} + x_{14}x_{23}x_{45}}, \\ a_{45} &= -\frac{(x_{13} - x_{23})x_{45}}{x_{13}x_{23}x_{35} + x_{14}x_{23}x_{45}} \end{aligned}$$

Now assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$ ,  $x_{24} = \frac{-x_{23}x_{35}}{x_{45}}$  and  $x_{13} = \frac{-x_{14}x_{45}}{x_{35}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= -\frac{x_{14}x_{45}}{x_{23}x_{35}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = -\frac{x_{23}x_{35}}{x_{14}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{x_{14}x_{45} + x_{35}}{x_{14}x_{35}} \end{aligned}$$

First assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$  and  $x_{35} \neq \frac{-x_{45}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{x_{23}^2x_{35} + x_{23}x_{24}x_{45}}{(x_{14}x_{23} - x_{13}x_{24})x_{45}}, d_3 = \frac{x_{23}x_{35} + x_{24}x_{45}}{(x_{14}x_{23} - x_{13}x_{24})x_{45}}, d_4 = \frac{x_{23}}{x_{14}x_{23} - x_{13}x_{24}}, d_5 = \frac{x_{23}}{(x_{14}x_{23} - x_{13}x_{24})x_{45}}, \\ a_{12} &= \frac{x_{13}x_{23}x_{35} + x_{13}x_{24}x_{45}}{(x_{14}x_{23} - x_{13}x_{24})x_{45}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, a_{35} = \frac{x_{15}x_{23}x_{24} + (2x_{14}^2x_{23} + 2x_{13}x_{24}^2 - (2x_{13}x_{14} + 2x_{14}x_{23})x_{24})x_{45}}{(x_{14}^2x_{23}^2 - 2x_{13}x_{14}x_{23}x_{24} + x_{13}^2x_{24}^2)x_{45}}, \\ a_{45} &= -\frac{x_{15}x_{23}^2 + (2x_{13}x_{14}x_{23} - 2x_{14}x_{23}^2 - (2x_{13}^2 - 2x_{13}x_{23})x_{24})x_{45}}{(x_{14}^2x_{23}^2 - 2x_{13}x_{14}x_{23}x_{24} + x_{13}^2x_{24}^2)x_{45}} \end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$  and  $x_{35} \neq \frac{-x_{45}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{45}}{x_{23}x_{35} + x_{24}x_{45}}, d_5 = \frac{1}{x_{23}x_{35} + x_{24}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = -\frac{x_{15}x_{23} + (x_{13} - 2x_{23})x_{24}x_{45} + (x_{13}x_{23} - 2x_{23}^2)x_{35}}{x_{13}x_{23}x_{35} + x_{13}x_{24}x_{45}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}x_{45}}{x_{23}^2x_{35} + x_{23}x_{24}x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{(x_{13} - 2)x_{23}^2x_{35} + (x_{13} - 2)x_{23}x_{24}x_{45} + x_{15}x_{23}}{x_{13}x_{23}x_{24}x_{35} + x_{13}x_{24}^2x_{45}} \end{aligned}$$

Now assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$  and  $x_{35} = \frac{-x_{45}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{23}}{x_{14}x_{23} - x_{13}x_{24}}, d_5 = \frac{x_{23}}{(x_{14}x_{23} - x_{13}x_{24})x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, a_{35} = \frac{x_{15}x_{23}x_{24} + (x_{14}^2x_{23} + x_{13}x_{24}^2 - (x_{13}x_{14} + x_{14}x_{23})x_{24})x_{45}}{(x_{14}^2x_{23}^2 - 2x_{13}x_{14}x_{23}x_{24} + x_{13}^2x_{24}^2)x_{45}}, \\ a_{45} &= -\frac{x_{15}x_{23}^2 + (x_{13}x_{14}x_{23} - x_{14}x_{23}^2 - (x_{13}^2 - x_{13}x_{23})x_{24})x_{45}}{(x_{14}^2x_{23}^2 - 2x_{13}x_{14}x_{23}x_{24} + x_{13}^2x_{24}^2)x_{45}} \end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$  and  $x_{24} \neq \frac{-x_{23}x_{35}}{x_{45}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{45}}{x_{23}x_{35} + x_{24}x_{45}}, d_5 = \frac{1}{x_{23}x_{35} + x_{24}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = -\frac{x_{15}x_{23} + (x_{13} - 2x_{23})x_{24}x_{45} + (x_{13}x_{23} - 2x_{23}^2)x_{35}}{x_{13}x_{23}x_{35} + x_{13}x_{24}x_{45}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}x_{45}}{x_{23}^2x_{35} + x_{23}x_{24}x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{(x_{13} - 2)x_{23}^2x_{35} + (x_{13} - 2)x_{23}x_{24}x_{45} + x_{15}x_{23}}{x_{13}x_{23}x_{24}x_{35} + x_{13}x_{24}^2x_{45}} \end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$  and  $x_{24} = \frac{-x_{23}x_{35}}{x_{45}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = -\frac{x_{15}x_{23} - x_{23}x_{45}}{x_{13}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{x_{15} + (x_{13} - 1)x_{45}}{x_{13}x_{35}} \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{23}x_{35}}{x_{45}}$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{45}}{x_{23}x_{35} + x_{24}x_{45}}, d_5 = \frac{1}{x_{23}x_{35} + x_{24}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = -1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}x_{45}}{x_{23}^2x_{35} + x_{23}x_{24}x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{(x_{23} - 2)x_{24}x_{45} + x_{25} + (x_{23}^2 - 2x_{23})x_{35}}{x_{23}x_{24}x_{35} + x_{24}^2x_{45}} \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{23}x_{35}}{x_{45}}$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 0, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{x_{25} + (x_{23} - 1)x_{45}}{x_{23}x_{35}} \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{23}x_{35}}{x_{45}}$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{45}}{x_{23}x_{35} + x_{24}x_{45}}, d_5 = \frac{1}{x_{23}x_{35} + x_{24}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = -\frac{x_{23}x_{35} + x_{24}x_{45} - x_{15}}{x_{23}x_{35} + x_{24}x_{45}}, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}x_{45}}{x_{23}^2x_{35} + x_{23}x_{24}x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{(x_{23} - 2)x_{24}x_{45} + x_{25} + (x_{23}^2 - 2x_{23})x_{35}}{x_{23}x_{24}x_{35} + x_{24}^2x_{45}} \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{23}x_{35}}{x_{45}}$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = \frac{x_{15}}{x_{45}}, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{x_{25} + (x_{23} - 1)x_{45}}{x_{23}x_{35}} \end{aligned}$$

First assume  $x_{45} \neq \frac{-x_{23}x_{35}}{x_{24}}$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{x_{23}x_{35} + x_{24}x_{45}}{x_{14}x_{45}}, d_3 = \frac{x_{23}x_{35} + x_{24}x_{45}}{x_{14}x_{23}x_{45}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14}x_{23}}, a_{35} = -\frac{x_{25} - (2x_{14} - 2x_{24})x_{45}}{x_{14}x_{23}x_{45}}, \\ a_{45} &= \frac{2}{x_{14}} \end{aligned}$$

Now assume  $x_{45} = \frac{-x_{23}x_{35}}{x_{24}}$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = -\frac{x_{24}}{x_{14}x_{23}x_{35}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14}x_{23}}, a_{35} = \frac{x_{24}x_{25} + (x_{14}x_{23} - x_{23}x_{24})x_{35}}{x_{14}x_{23}^2x_{35}}, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

First assume  $x_{45} \neq \frac{-x_{23}x_{35}}{x_{24}}$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{x_{23}x_{35} + x_{24}x_{45}}{x_{14}x_{45}}, d_3 = \frac{x_{23}x_{35} + x_{24}x_{45}}{x_{14}x_{23}x_{45}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14}x_{23}}, a_{35} = \frac{x_{15}x_{24} - x_{14}x_{25} + (2x_{14}^2 - 2x_{14}x_{24})x_{45}}{x_{14}^2x_{23}x_{45}}, \\ a_{45} &= \frac{2x_{14}x_{45} - x_{15}}{x_{14}^2x_{45}} \end{aligned}$$

Now assume  $x_{45} = \frac{-x_{23}x_{35}}{x_{24}}$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{14}}, d_5 = -\frac{x_{24}}{x_{14}x_{23}x_{35}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14}x_{23}}, a_{35} = -\frac{x_{15}x_{24}^2 - x_{14}x_{24}x_{25} - (x_{14}^2x_{23} - x_{14}x_{23}x_{24})x_{35}}{x_{14}^2x_{23}^2x_{35}}, \\ a_{45} &= \frac{x_{14}x_{23}x_{35} + x_{15}x_{24}}{x_{14}^2x_{23}x_{35}} \end{aligned}$$



First assume  $x_{45} \neq \frac{-x_{23}x_{35}}{x_{24}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = -\frac{x_{23}^2x_{35} + x_{23}x_{24}x_{45}}{x_{13}x_{24}x_{45}}, d_3 = -\frac{x_{23}x_{35} + x_{24}x_{45}}{x_{13}x_{24}x_{45}}, d_4 = -\frac{x_{23}}{x_{13}x_{24}}, d_5 = -\frac{x_{23}}{x_{13}x_{24}x_{45}}, \\ a_{12} &= -\frac{x_{23}x_{35} + x_{24}x_{45}}{x_{24}x_{45}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{2}{x_{13}}, \\ a_{45} &= \frac{x_{23}x_{25} + (2x_{13} - 2x_{23})x_{24}x_{45}}{x_{13}x_{24}^2x_{45}} \end{aligned}$$

Now assume  $x_{45} = \frac{-x_{23}x_{35}}{x_{24}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = -\frac{x_{23}}{x_{13}x_{24}}, d_5 = \frac{1}{x_{13}x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= -\frac{x_{25} - (x_{13} - x_{23})x_{35}}{x_{13}x_{24}x_{35}} \end{aligned}$$

First assume  $x_{45} \neq \frac{-x_{23}x_{35}}{x_{24}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = -\frac{x_{23}^2x_{35} + x_{23}x_{24}x_{45}}{x_{13}x_{24}x_{45}}, d_3 = -\frac{x_{23}x_{35} + x_{24}x_{45}}{x_{13}x_{24}x_{45}}, d_4 = -\frac{x_{23}}{x_{13}x_{24}}, d_5 = -\frac{x_{23}}{x_{13}x_{24}x_{45}}, \\ a_{12} &= -\frac{x_{23}x_{35} + x_{24}x_{45}}{x_{24}x_{45}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{2x_{13}x_{24}x_{45} + x_{15}x_{23}}{x_{13}^2x_{24}x_{45}}, \\ a_{45} &= -\frac{x_{15}x_{23}^2 - x_{13}x_{23}x_{25} - (2x_{13}^2 - 2x_{13}x_{23})x_{24}x_{45}}{x_{13}^2x_{24}^2x_{45}} \end{aligned}$$

Now assume  $x_{45} = \frac{-x_{23}x_{35}}{x_{24}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = -\frac{x_{23}}{x_{13}x_{24}}, d_5 = \frac{1}{x_{13}x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{x_{13}x_{35} - x_{15}}{x_{13}^2x_{35}}, \\ a_{45} &= \frac{x_{15}x_{23} - x_{13}x_{25} + (x_{13}^2 - x_{13}x_{23})x_{35}}{x_{13}^2x_{24}x_{35}} \end{aligned}$$

First assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$  and  $x_{24} \neq \frac{-x_{23}x_{35}}{x_{45}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{x_{23}^2x_{35} + x_{23}x_{24}x_{45}}{(x_{14}x_{23} - x_{13}x_{24})x_{45}}, d_3 = \frac{x_{23}x_{35} + x_{24}x_{45}}{(x_{14}x_{23} - x_{13}x_{24})x_{45}}, d_4 = \frac{x_{23}}{x_{14}x_{23} - x_{13}x_{24}}, d_5 = \frac{x_{23}}{(x_{14}x_{23} - x_{13}x_{24})x_{45}}, \\ a_{12} &= \frac{x_{13}x_{23}x_{35} + x_{13}x_{24}x_{45}}{(x_{14}x_{23} - x_{13}x_{24})x_{45}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, a_{35} = -\frac{x_{14}x_{23}x_{25} - (2x_{14}^2x_{23} + 2x_{13}x_{24}^2 - (2x_{13}x_{14} + 2x_{14}x_{23})x_{24})x_{45}}{(x_{14}^2x_{23}^2 - 2x_{13}x_{14}x_{23}x_{24} + x_{13}^2x_{24}^2)x_{45}}, \\ a_{45} &= \frac{x_{13}x_{23}x_{25} - (2x_{13}x_{14}x_{23} - 2x_{14}x_{23}^2 - (2x_{13}^2 - 2x_{13}x_{23})x_{24})x_{45}}{(x_{14}^2x_{23}^2 - 2x_{13}x_{14}x_{23}x_{24} + x_{13}^2x_{24}^2)x_{45}} \end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$  and  $x_{24} \neq \frac{-x_{23}x_{35}}{x_{45}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{45}}{x_{23}x_{35} + x_{24}x_{45}}, d_5 = \frac{1}{x_{23}x_{35} + x_{24}x_{45}}, \\
a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= 1, a_{24} = \frac{x_{13}x_{25} - (x_{13} - 2x_{23})x_{24}x_{45} - (x_{13}x_{23} - 2x_{23}^2)x_{35}}{x_{13}x_{23}x_{35} + x_{13}x_{24}x_{45}}, a_{25} = 1, \\
a_{34} &= -\frac{x_{24}x_{45}}{x_{23}^2x_{35} + x_{23}x_{24}x_{45}}, a_{35} = 1, \\
a_{45} &= -\frac{(x_{13} - 2)x_{23}}{x_{13}x_{24}}
\end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$  and  $x_{24} = \frac{-x_{23}x_{35}}{x_{45}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\
a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= 1, a_{24} = \frac{x_{13}x_{25} + x_{23}x_{45}}{x_{13}x_{45}}, a_{25} = 1, \\
a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = 1, \\
a_{45} &= \frac{(x_{13} - 1)x_{45}}{x_{13}x_{35}}
\end{aligned}$$

Now assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$ ,  $x_{24} = \frac{-x_{23}x_{35}}{x_{45}}$  and  $x_{14} \neq \frac{x_{13}x_{35}}{x_{45}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{45}}{x_{13}x_{35} + x_{14}x_{45}}, d_5 = \frac{1}{x_{13}x_{35} + x_{14}x_{45}}, \\
a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
a_{34} &= \frac{x_{35}}{x_{13}x_{35} + x_{14}x_{45}}, a_{35} = \frac{x_{13}x_{23}x_{35}^2 + x_{14}^2x_{45}^2 - (x_{14}x_{25} - (x_{13}x_{14} + x_{14}x_{23})x_{35})x_{45}}{x_{13}^2x_{23}x_{35}^2 + 2x_{13}x_{14}x_{23}x_{35}x_{45} + x_{14}^2x_{23}x_{45}^2}, \\
a_{45} &= -\frac{(x_{13}x_{14} - x_{14}x_{23})x_{45}^2 - (x_{13}x_{25} - (x_{13}^2 - x_{13}x_{23})x_{35})x_{45}}{x_{13}^2x_{23}x_{35}^2 + 2x_{13}x_{14}x_{23}x_{35}x_{45} + x_{14}^2x_{23}x_{45}^2}
\end{aligned}$$

Now assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$ ,  $x_{24} = \frac{-x_{23}x_{35}}{x_{45}}$  and  $x_{14} = \frac{x_{13}x_{35}}{x_{45}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{45}}{2x_{13}x_{35}}, d_5 = \frac{1}{2x_{13}x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{2x_{13}}, a_{35} = -\frac{x_{25} - 2(x_{13} + x_{23})x_{35}}{4x_{13}x_{23}x_{35}}, \\ a_{45} &= \frac{(x_{25} - 2(x_{13} - x_{23})x_{35})x_{45}}{4x_{13}x_{23}x_{35}^2} \end{aligned}$$

First assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$  and  $x_{24} \neq \frac{-x_{23}x_{35}}{x_{45}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{x_{23}^2x_{35} + x_{23}x_{24}x_{45}}{(x_{14}x_{23} - x_{13}x_{24})x_{45}}, d_3 = \frac{x_{23}x_{35} + x_{24}x_{45}}{(x_{14}x_{23} - x_{13}x_{24})x_{45}}, d_4 = \frac{x_{23}}{x_{14}x_{23} - x_{13}x_{24}}, d_5 = \frac{x_{23}}{(x_{14}x_{23} - x_{13}x_{24})x_{45}}, \\ a_{12} &= \frac{x_{13}x_{23}x_{35} + x_{13}x_{24}x_{45}}{(x_{14}x_{23} - x_{13}x_{24})x_{45}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, a_{35} = \frac{x_{15}x_{23}x_{24} - x_{14}x_{23}x_{25} + (2x_{14}^2x_{23} + 2x_{13}x_{24}^2 - (2x_{13}x_{14} + 2x_{14}x_{23})x_{24})x_{45}}{(x_{14}^2x_{23}^2 - 2x_{13}x_{14}x_{23}x_{24} + x_{13}^2x_{24}^2)x_{45}}, \\ a_{45} &= -\frac{x_{15}x_{23}^2 - x_{13}x_{23}x_{25} + (2x_{13}x_{14}x_{23} - 2x_{14}x_{23}^2 - (2x_{13}^2 - 2x_{13}x_{23})x_{24})x_{45}}{(x_{14}^2x_{23}^2 - 2x_{13}x_{14}x_{23}x_{24} + x_{13}^2x_{24}^2)x_{45}} \end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$  and  $x_{24} \neq \frac{-x_{23}x_{35}}{x_{45}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{45}}{x_{23}x_{35} + x_{24}x_{45}}, d_5 = \frac{1}{x_{23}x_{35} + x_{24}x_{45}}, \\
 a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = -\frac{x_{15}x_{23} - x_{13}x_{25} + (x_{13} - 2x_{23})x_{24}x_{45} + (x_{13}x_{23} - 2x_{23}^2)x_{35}}{x_{13}x_{23}x_{35} + x_{13}x_{24}x_{45}}, a_{25} = 1, \\
 a_{34} &= -\frac{x_{24}x_{45}}{x_{23}^2x_{35} + x_{23}x_{24}x_{45}}, a_{35} = 1, \\
 a_{45} &= -\frac{(x_{13} - 2)x_{23}^2x_{35} + (x_{13} - 2)x_{23}x_{24}x_{45} + x_{15}x_{23}}{x_{13}x_{23}x_{24}x_{35} + x_{13}x_{24}^2x_{45}}
 \end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$  and  $x_{24} = \frac{-x_{23}x_{35}}{x_{45}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\
 a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = -\frac{x_{15}x_{23} - x_{13}x_{25} - x_{23}x_{45}}{x_{13}x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = 1, \\
 a_{45} &= \frac{x_{15} + (x_{13} - 1)x_{45}}{x_{13}x_{35}}
 \end{aligned}$$

Now assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$ ,  $x_{24} = \frac{-x_{23}x_{35}}{x_{45}}$  and  $x_{14} \neq \frac{x_{13}x_{35}}{x_{45}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{45}}{x_{13}x_{35} + x_{14}x_{45}}, d_5 = \frac{1}{x_{13}x_{35} + x_{14}x_{45}}, \\
 a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{x_{35}}{x_{13}x_{35} + x_{14}x_{45}}, a_{35} = \frac{x_{13}x_{23}x_{35}^2 + x_{14}^2x_{45}^2 - x_{15}x_{23}x_{35} - (x_{14}x_{25} - (x_{13}x_{14} + x_{14}x_{23})x_{35})x_{45}}{x_{13}^2x_{23}x_{35}^2 + 2x_{13}x_{14}x_{23}x_{35}x_{45} + x_{14}^2x_{23}x_{45}^2}, \\
 a_{45} &= -\frac{(x_{13}x_{14} - x_{14}x_{23})x_{45}^2 + (x_{15}x_{23} - x_{13}x_{25} + (x_{13}^2 - x_{13}x_{23})x_{35})x_{45}}{x_{13}^2x_{23}x_{35}^2 + 2x_{13}x_{14}x_{23}x_{35}x_{45} + x_{14}^2x_{23}x_{45}^2}
 \end{aligned}$$

Now assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$ ,  $x_{24} = \frac{-x_{23}x_{35}}{x_{45}}$  and  $x_{14} = \frac{x_{13}x_{35}}{x_{45}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= -\frac{x_{14}x_{45}}{x_{23}x_{35}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = \frac{x_{15}x_{23}x_{35} + (x_{14}x_{25} - x_{23}x_{35})x_{45}}{x_{14}x_{45}^2}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{x_{14}x_{45}^2 - x_{15}x_{35} + x_{35}x_{45}}{x_{14}x_{35}x_{45}} \end{aligned}$$

#### APPENDIX G. SUBCASES OF $Y_6$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 0, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{23}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{15}}, \\ a_{12} &= 0, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{23}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{23}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{15}}, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{23}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}}{x_{13}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{15}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}}{x_{13}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{15}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$



$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 0, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{23}}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{15}}, \\ a_{12} &= 0, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{23}}, a_{35} = -\frac{x_{25}}{x_{15}x_{23}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{23}}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{15}}, \\
 a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{1}{x_{23}}, a_{35} = -\frac{x_{25}}{x_{15}x_{23}}, \\
 a_{45} &= 0
 \end{aligned}$$

$$x = \begin{pmatrix} 0 & 0 & x_{13} & 0 & 0 \\ 0 & 0 & x_{23} & 0 & x_{25} \\ 0 & 0 & 0 & x_{34} & 0 \\ 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 \end{pmatrix}, x^A = \begin{pmatrix} 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = -\frac{x_{23}}{x_{13}x_{25}}, \\
 a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{23}}{x_{13}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\
 a_{45} &= 0
 \end{aligned}$$

First assume  $x_{15} \neq \frac{x_{13}x_{25}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{x_{23}}{x_{15}x_{23} - x_{13}x_{25}}, \\
 a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{23}}{x_{13}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{1}{x_{13}}, a_{35} = -\frac{x_{25}}{x_{15}x_{23} - x_{13}x_{25}}, \\
 a_{45} &= 0
 \end{aligned}$$

Now assume  $x_{15} = \frac{x_{13}x_{25}}{x_{23}}$

$$x = \begin{pmatrix} 0 & 0 & x_{13} & 0 & x_{15} \\ 0 & 0 & x_{23} & 0 & x_{25} \\ 0 & 0 & 0 & x_{34} & 0 \\ 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 \end{pmatrix}, x^A = \begin{pmatrix} 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}}{x_{13}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = -\frac{x_{23}}{x_{13}x_{25}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= 0 \end{aligned}$$

First assume  $x_{15} \neq \frac{x_{13}x_{25}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{x_{23}}{x_{15}x_{23} - x_{13}x_{25}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = -\frac{x_{25}}{x_{15}x_{23} - x_{13}x_{25}}, \\ a_{45} &= 0 \end{aligned}$$

Now assume  $x_{15} = \frac{x_{13}x_{25}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 0, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{23}^2x_{34}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{15}}, \\ a_{12} &= 0, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{23}^2x_{34}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{23}^2x_{34}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{15}}, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{23}^2x_{34}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{15}}, \\
 a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{23}^2x_{34} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{1}{x_{13}}, a_{35} = 0, \\
 a_{45} &= 0
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\
 a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{23}^2x_{34} - x_{14}x_{23} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = 0, \\
 a_{45} &= 0
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{15}}, \\
 a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{23}^2x_{34} - x_{14}x_{23} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = 0, \\
 a_{45} &= 0
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 0, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{23}^2x_{34}}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{15}}, \\ a_{12} &= 0, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{23}^2x_{34}}, a_{35} = -\frac{x_{25}}{x_{15}x_{23}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{23}^2x_{34}}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{15}}, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{23}^2x_{34}}, a_{35} = -\frac{x_{25}}{x_{15}x_{23}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = -\frac{x_{23}}{x_{13}x_{25}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= 0 \end{aligned}$$

First assume  $x_{15} \neq \frac{x_{13}x_{25}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{x_{23}}{x_{15}x_{23} - x_{13}x_{25}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = -\frac{x_{25}}{x_{15}x_{23} - x_{13}x_{25}}, \\ a_{45} &= 0 \end{aligned}$$

Now assume  $x_{15} = \frac{x_{13}x_{25}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = -\frac{x_{23}}{x_{13}x_{25}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34} - x_{14}x_{23} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= 0 \end{aligned}$$

First assume  $x_{15} \neq \frac{x_{13}x_{25}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{x_{23}}{x_{15}x_{23} - x_{13}x_{25}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34} - x_{14}x_{23} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = -\frac{x_{25}}{x_{15}x_{23} - x_{13}x_{25}}, \\ a_{45} &= 0 \end{aligned}$$

First assume  $x_{15} = \frac{x_{13}x_{25}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\
 a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{23}^2 x_{34} - x_{14} x_{23} + x_{13} x_{24}}{x_{13} x_{23} x_{34}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{x_{23} x_{34} - x_{14}}{x_{13} x_{23} x_{34}}, a_{35} = -\frac{x_{25}}{x_{23}}, \\
 a_{45} &= 0
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\
 a_{12} &= 0, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{1}{x_{23}}, a_{35} = 0, \\
 a_{45} &= -\frac{x_{35}}{x_{34}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{15}}, \\
 a_{12} &= 0, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{1}{x_{23}}, a_{35} = 0, \\
 a_{45} &= -\frac{x_{35}}{x_{15}x_{34}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = -\frac{x_{34}}{x_{14}x_{35}}, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{23}}, a_{35} = 0, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

First assume  $x_{15} \neq \frac{x_{14}x_{35}}{x_{34}}$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{x_{34}}{x_{15}x_{34} - x_{14}x_{35}}, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{23}}, a_{35} = 0, \\ a_{45} &= -\frac{x_{35}}{x_{15}x_{34} - x_{14}x_{35}} \end{aligned}$$

Now assume  $x_{15} = \frac{x_{14}x_{35}}{x_{34}}$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{23}}, a_{35} = 0, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}}{x_{13}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = 0, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{15}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}}{x_{13}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = 0, \\ a_{45} &= -\frac{x_{35}}{x_{15}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = -\frac{x_{34}}{x_{14}x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = 0, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

First assume  $x_{15} \neq \frac{x_{14}x_{35}}{x_{34}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{x_{34}}{x_{15}x_{34} - x_{14}x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = 0, \\ a_{45} &= -\frac{x_{35}}{x_{15}x_{34} - x_{14}x_{35}} \end{aligned}$$

Now assume  $x_{15} = \frac{x_{14}x_{35}}{x_{34}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = 0, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 0, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{23}}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{15}}, \\ a_{12} &= 0, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{23}}, a_{35} = -\frac{x_{25}}{x_{15}x_{23}}, \\ a_{45} &= -\frac{x_{35}}{x_{15}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = -\frac{x_{34}}{x_{14}x_{35}}, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{23}}, a_{35} = \frac{x_{25}x_{34}}{x_{14}x_{23}x_{35}}, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

First assume  $x_{15} \neq \frac{x_{14}x_{35}}{x_{34}}$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{x_{34}}{x_{15}x_{34} - x_{14}x_{35}}, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{23}}, a_{35} = -\frac{x_{25}x_{34}}{x_{15}x_{23}x_{34} - x_{14}x_{23}x_{35}}, \\ a_{45} &= -\frac{x_{35}}{x_{15}x_{34} - x_{14}x_{35}} \end{aligned}$$

Now assume  $x_{15} = \frac{x_{14}x_{35}}{x_{34}}$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\
 a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{1}{x_{23}}, a_{35} = -\frac{x_{25}}{x_{23}}, \\
 a_{45} &= -\frac{x_{35}}{x_{34}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = -\frac{x_{23}}{x_{13}x_{25}}, \\
 a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{23}}{x_{13}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\
 a_{45} &= \frac{x_{23}x_{35}}{x_{13}x_{25}x_{34}}
 \end{aligned}$$

First assume  $x_{15} \neq \frac{x_{13}x_{25}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{x_{23}}{x_{15}x_{23} - x_{13}x_{25}}, \\
 a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{23}}{x_{13}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{1}{x_{13}}, a_{35} = -\frac{x_{25}}{x_{15}x_{23} - x_{13}x_{25}}, \\
 a_{45} &= -\frac{x_{23}x_{35}}{(x_{15}x_{23} - x_{13}x_{25})x_{34}}
 \end{aligned}$$

Now assume  $x_{15} = \frac{x_{13}x_{25}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}}{x_{13}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

First assume  $x_{35} \neq \frac{-x_{13}x_{25}x_{34}}{x_{14}x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = -\frac{x_{23}x_{34}}{x_{13}x_{25}x_{34} + x_{14}x_{23}x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = \frac{x_{25}x_{34}}{x_{13}x_{25}x_{34} + x_{14}x_{23}x_{35}}, \\ a_{45} &= \frac{x_{23}x_{35}}{x_{13}x_{25}x_{34} + x_{14}x_{23}x_{35}} \end{aligned}$$

First assume  $x_{35} = \frac{-x_{13}x_{25}x_{34}}{x_{14}x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= \frac{x_{13}x_{25}}{x_{14}x_{23}} \end{aligned}$$

First assume  $x_{35} \neq \frac{(x_{15}x_{23} - x_{13}x_{25})x_{34}}{x_{14}x_{23}}$



$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = -\frac{x_{23}x_{34}}{x_{14}x_{23}x_{35} - (x_{15}x_{23} - x_{13}x_{25})x_{34}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = \frac{x_{25}x_{34}}{x_{14}x_{23}x_{35} - (x_{15}x_{23} - x_{13}x_{25})x_{34}}, \\ a_{45} &= \frac{x_{23}x_{35}}{x_{14}x_{23}x_{35} - (x_{15}x_{23} - x_{13}x_{25})x_{34}} \end{aligned}$$

Now assume  $x_{35} = \frac{(x_{15}x_{23} - x_{13}x_{25})x_{34}}{x_{14}x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= -\frac{x_{15}x_{23} - x_{13}x_{25}}{x_{14}x_{23}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 0, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{23}^2x_{34}}, a_{35} = \frac{x_{24}x_{35}}{x_{23}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{15}}, \\ a_{12} &= 0, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{23}^2x_{34}}, a_{35} = \frac{x_{24}x_{35}}{x_{15}x_{23}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{15}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = -\frac{x_{34}}{x_{14}x_{35}}, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{23}^2x_{34}}, a_{35} = -\frac{x_{24}}{x_{14}x_{23}}, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

First assume  $x_{15} \neq \frac{x_{14}x_{35}}{x_{34}}$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{x_{34}}{x_{15}x_{34} - x_{14}x_{35}}, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{23}^2x_{34}}, a_{35} = \frac{x_{24}x_{35}}{x_{15}x_{23}x_{34} - x_{14}x_{23}x_{35}}, \\ a_{45} &= -\frac{x_{35}}{x_{15}x_{34} - x_{14}x_{35}} \end{aligned}$$

Now assume  $x_{15} = \frac{x_{14}x_{35}}{x_{34}}$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{23}^2x_{34}}, a_{35} = \frac{x_{24}x_{35}}{x_{23}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{x_{23}x_{34}}{x_{13}x_{24}x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= -\frac{x_{23}}{x_{13}x_{24}} \end{aligned}$$

First assume  $x_{35} \neq \frac{-x_{15}x_{23}x_{34}}{x_{13}x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{x_{23}x_{34}}{x_{15}x_{23}x_{34} + x_{13}x_{24}x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{x_{24}x_{35}}{x_{15}x_{23}x_{34} + x_{13}x_{24}x_{35}}, \\ a_{45} &= -\frac{x_{23}x_{35}}{x_{15}x_{23}x_{34} + x_{13}x_{24}x_{35}} \end{aligned}$$

Now assume  $x_{35} = \frac{-x_{15}x_{23}x_{34}}{x_{13}x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = -\frac{x_{15}}{x_{13}}, \\ a_{45} &= \frac{x_{15}x_{23}}{x_{13}x_{24}} \end{aligned}$$

First assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = -\frac{x_{23}x_{34}}{(x_{14}x_{23} - x_{13}x_{24})x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34} - x_{14}x_{23} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = -\frac{x_{24}}{x_{14}x_{23} - x_{13}x_{24}}, \\ a_{45} &= \frac{x_{23}}{x_{14}x_{23} - x_{13}x_{24}} \end{aligned}$$

First assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}}{x_{13}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}^2 x_{34} - x_{13} x_{24}}{x_{13} x_{23}^2 x_{34}}, a_{35} = \frac{x_{24} x_{35}}{x_{23} x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

First assume  $x_{15} \neq \frac{(x_{14}x_{23} - x_{13}x_{24})x_{35}}{x_{34}x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{x_{23}x_{34}}{x_{15}x_{23}x_{34} - (x_{14}x_{23} - x_{13}x_{24})x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2 x_{34} - x_{14}x_{23} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = \frac{x_{24}x_{35}}{x_{15}x_{23}x_{34} - (x_{14}x_{23} - x_{13}x_{24})x_{35}}, \\ a_{45} &= -\frac{x_{23}x_{35}}{x_{15}x_{23}x_{34} - (x_{14}x_{23} - x_{13}x_{24})x_{35}} \end{aligned}$$

First assume  $x_{15} = \frac{(x_{14}x_{23} - x_{13}x_{24})x_{35}}{x_{34}x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2 x_{34} - x_{14}x_{23} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = \frac{x_{24}x_{35}}{x_{23}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 0, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{23}^2x_{34}}, a_{35} = -\frac{x_{25}x_{34} - x_{24}x_{35}}{x_{23}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{15}}, \\ a_{12} &= 0, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{23}^2x_{34}}, a_{35} = -\frac{x_{25}x_{34} - x_{24}x_{35}}{x_{15}x_{23}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{15}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = -\frac{x_{34}}{x_{14}x_{35}}, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{23}^2x_{34}}, a_{35} = \frac{x_{25}x_{34} - x_{24}x_{35}}{x_{14}x_{23}x_{35}}, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

First assume  $x_{15} \neq \frac{x_{14}x_{35}}{x_{34}}$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{x_{34}}{x_{15}x_{34} - x_{14}x_{35}}, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{23}^2x_{34}}, a_{35} = -\frac{x_{25}x_{34} - x_{24}x_{35}}{x_{15}x_{23}x_{34} - x_{14}x_{23}x_{35}}, \\ a_{45} &= -\frac{x_{35}}{x_{15}x_{34} - x_{14}x_{35}} \end{aligned}$$

Now assume  $x_{15} = \frac{x_{14}x_{35}}{x_{34}}$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{23}^2x_{34}}, a_{35} = -\frac{x_{25}x_{34} - x_{24}x_{35}}{x_{23}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

First assume  $x_{25} \neq \frac{x_{24}x_{35}}{x_{34}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = -\frac{x_{23}x_{34}}{x_{13}x_{25}x_{34} - x_{13}x_{24}x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= \frac{x_{23}x_{35}}{x_{13}x_{25}x_{34} - x_{13}x_{24}x_{35}} \end{aligned}$$

Now assume  $x_{25} = \frac{x_{24}x_{35}}{x_{34}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = 0, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

First assume  $x_{15} \neq \frac{(x_{34}x_{25} - x_{24}x_{35})x_{13}}{x_{34}x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{x_{23}x_{34}}{x_{13}x_{24}x_{35} + (x_{15}x_{23} - x_{13}x_{25})x_{34}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = -\frac{x_{25}x_{34} - x_{24}x_{35}}{x_{13}x_{24}x_{35} + (x_{15}x_{23} - x_{13}x_{25})x_{34}}, \\ a_{45} &= -\frac{x_{23}x_{35}}{x_{13}x_{24}x_{35} + (x_{15}x_{23} - x_{13}x_{25})x_{34}} \end{aligned}$$

Now assume  $x_{15} = \frac{(x_{34}x_{25} - x_{24}x_{35})x_{13}}{x_{34}x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = -\frac{x_{25}x_{34} - x_{24}x_{35}}{x_{23}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

First assume  $x_{14} \neq \frac{(-x_{34}x_{25} + x_{24}x_{35})x_{13}}{x_{35}x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = -\frac{x_{23}x_{34}}{x_{13}x_{25}x_{34} + (x_{14}x_{23} - x_{13}x_{24})x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34} - x_{14}x_{23} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = \frac{x_{25}x_{34} - x_{24}x_{35}}{x_{13}x_{25}x_{34} + (x_{14}x_{23} - x_{13}x_{24})x_{35}}, \\ a_{45} &= \frac{x_{23}x_{35}}{x_{13}x_{25}x_{34} + (x_{14}x_{23} - x_{13}x_{24})x_{35}} \end{aligned}$$

Now assume  $x_{14} = \frac{(-x_{34}x_{25} + x_{24}x_{35})x_{13}}{x_{35}x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{35} + x_{13}x_{25}}{x_{13}x_{23}x_{35}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{25}x_{34} + (x_{23}^2x_{34} - x_{13}x_{24})x_{35}}{x_{13}x_{23}^2x_{34}x_{35}}, a_{35} = -\frac{x_{25}x_{34} - x_{24}x_{35}}{x_{23}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

First assume  $x_{15} \neq \frac{x_{13}x_{25}}{x_{23}}$  and  $x_{34} \neq \frac{(x_{14}x_{23}-x_{13}x_{24})x_{35}}{x_{15}x_{23}-x_{13}x_{25}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{x_{23}x_{34}}{(x_{15}x_{23} - x_{13}x_{25})x_{34} - (x_{14}x_{23} - x_{13}x_{24})x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34} - x_{14}x_{23} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = -\frac{x_{25}x_{34} - x_{24}x_{35}}{(x_{15}x_{23} - x_{13}x_{25})x_{34} - (x_{14}x_{23} - x_{13}x_{24})x_{35}}, \\ a_{45} &= -\frac{x_{23}x_{35}}{(x_{15}x_{23} - x_{13}x_{25})x_{34} - (x_{14}x_{23} - x_{13}x_{24})x_{35}} \end{aligned}$$

Now assume  $x_{15} = \frac{x_{13}x_{25}}{x_{23}}$  and  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = -\frac{x_{23}x_{34}}{(x_{14}x_{23} - x_{13}x_{24})x_{35}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34} - x_{14}x_{23} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = \frac{x_{25}x_{34} - x_{24}x_{35}}{(x_{14}x_{23} - x_{13}x_{24})x_{35}}, \\ a_{45} &= \frac{x_{23}}{x_{14}x_{23} - x_{13}x_{24}} \end{aligned}$$

Now assume  $x_{15} = \frac{x_{13}x_{25}}{x_{23}}$  and  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}}{x_{13}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}^2x_{34} - x_{13}x_{24}}{x_{13}x_{23}^2x_{34}}, a_{35} = -\frac{x_{25}x_{34} - x_{24}x_{35}}{x_{23}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

Now assume  $x_{15} \neq \frac{x_{13}x_{25}}{x_{23}}$  and  $x_{34} = \frac{(x_{14}x_{23} - x_{13}x_{24})x_{35}}{x_{15}x_{23} - x_{13}x_{25}}$  and  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{x_{15}x_{23} - x_{13}x_{25}}{(x_{14}x_{23}^2 - x_{13}x_{23}x_{24})x_{35}}, d_5 = 1, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{35} - x_{15}x_{23} + x_{13}x_{25}}{x_{13}x_{23}x_{35}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{14}x_{15}x_{23} - x_{13}x_{14}x_{25} - (x_{14}x_{23}^2 - x_{13}x_{23}x_{24})x_{35}}{(x_{13}x_{14}x_{23}^2 - x_{13}^2x_{23}x_{24})x_{35}}, a_{35} = \frac{x_{15}x_{24} - x_{14}x_{25}}{x_{14}x_{23} - x_{13}x_{24}}, \\ a_{45} &= -\frac{x_{15}x_{23} - x_{13}x_{25}}{x_{14}x_{23} - x_{13}x_{24}} \end{aligned}$$

These are the only possible cases, given that  $x_{ij} \neq 0$

#### APPENDIX H. SUBCASES OF $Y_7$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = 0, \\ a_{34} &= \frac{1}{x_{12}x_{23}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = 0, \\ a_{34} &= \frac{1}{x_{12}x_{23}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = 0, \\ a_{34} &= \frac{1}{x_{12}x_{23}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = -\frac{x_{15}}{x_{12}}, \\ a_{34} &= \frac{1}{x_{12}x_{23}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2}{x_{12}^3x_{23}^2}, a_{25} = 0, \\ a_{34} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}^2}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2}{x_{12}^3x_{23}^2}, a_{25} = -\frac{x_{15}}{x_{12}}, \\ a_{34} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}^2}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{12}x_{14}x_{23} - (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{34}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = 0, \\ a_{34} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}^2}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{12}x_{14}x_{23} - (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{34}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = -\frac{x_{15}}{x_{12}}, \\ a_{34} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}^2}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = 0, \\ a_{34} &= \frac{1}{x_{12}x_{23}}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = -\frac{x_{15}}{x_{12}}, \\ a_{34} &= \frac{1}{x_{12}x_{23}}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = 0, \\ a_{34} &= \frac{1}{x_{12}x_{23}}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = -\frac{x_{15}}{x_{12}}, \\ a_{34} &= \frac{1}{x_{12}x_{23}}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2}{x_{12}^3x_{23}^2}, a_{25} = \frac{x_{13}x_{25}}{x_{12}x_{23}}, \\ a_{34} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}^2}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2}{x_{12}^3x_{23}^2}, a_{25} = -\frac{x_{15}x_{23} - x_{13}x_{25}}{x_{12}x_{23}}, \\ a_{34} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}^2}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{12}x_{14}x_{23} - (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{34}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = \frac{x_{13}x_{25}}{x_{12}x_{23}}, \\ a_{34} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}^2}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{12}x_{14}x_{23} - (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{34}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = -\frac{x_{15}x_{23} - x_{13}x_{25}}{x_{12}x_{23}}, \\ a_{34} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}^2}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= 0 \end{aligned}$$



$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = 0, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = -\frac{x_{15}}{x_{12}}, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = 0, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = -\frac{x_{15}}{x_{12}}, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{12}x_{13}x_{24} + (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{34}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = 0, \\ a_{34} &= -\frac{x_{12}x_{24} - (x_{12}x_{23} - x_{13})x_{34}}{x_{12}^2x_{23}^2x_{34}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{12}x_{13}x_{24} + (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{34}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = -\frac{x_{15}}{x_{12}}, \\ a_{34} &= -\frac{x_{12}x_{24} - (x_{12}x_{23} - x_{13})x_{34}}{x_{12}^2x_{23}^2x_{34}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{12}x_{14}x_{23} - x_{12}x_{13}x_{24} - (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{34}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = 0, \\ a_{34} &= -\frac{x_{12}x_{24} - (x_{12}x_{23} - x_{13})x_{34}}{x_{12}^2x_{23}^2x_{34}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{12}x_{14}x_{23} - x_{12}x_{13}x_{24} - (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{34}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = -\frac{x_{15}}{x_{12}}, \\ a_{34} &= -\frac{x_{12}x_{24} - (x_{12}x_{23} - x_{13})x_{34}}{x_{12}^2x_{23}^2x_{34}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = 0, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = -\frac{x_{15}}{x_{12}}, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = 0, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = -\frac{x_{15}}{x_{12}}, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{12}x_{13}x_{24} + (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{34}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = \frac{x_{13}x_{25}}{x_{12}x_{23}}, \\ a_{34} &= -\frac{x_{12}x_{24} - (x_{12}x_{23} - x_{13})x_{34}}{x_{12}^2x_{23}^2x_{34}}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{12}x_{13}x_{24} + (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{34}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = -\frac{x_{15}x_{23} - x_{13}x_{25}}{x_{12}x_{23}}, \\ a_{34} &= -\frac{x_{12}x_{24} - (x_{12}x_{23} - x_{13})x_{34}}{x_{12}^2x_{23}^2x_{34}}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{12}x_{14}x_{23} - x_{12}x_{13}x_{24} - (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{34}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = \frac{x_{13}x_{25}}{x_{12}x_{23}}, \\ a_{34} &= -\frac{x_{12}x_{24} - (x_{12}x_{23} - x_{13})x_{34}}{x_{12}^2x_{23}^2x_{34}}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{12}x_{14}x_{23} - x_{12}x_{13}x_{24} - (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{34}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = -\frac{x_{15}x_{23} - x_{13}x_{25}}{x_{12}x_{23}}, \\ a_{34} &= -\frac{x_{12}x_{24} - (x_{12}x_{23} - x_{13})x_{34}}{x_{12}^2x_{23}^2x_{34}}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = 0, \\ a_{34} &= \frac{1}{x_{12}x_{23}}, a_{35} = 0, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = -\frac{x_{15}}{x_{12}}, \\ a_{34} &= \frac{1}{x_{12}x_{23}}, a_{35} = 0, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = \frac{x_{14}x_{35}}{x_{12}x_{34}}, \\ a_{34} &= \frac{1}{x_{12}x_{23}}, a_{35} = 0, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = -\frac{x_{15}x_{34} - x_{14}x_{35}}{x_{12}x_{34}}, \\ a_{34} &= \frac{1}{x_{12}x_{23}}, a_{35} = 0, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2}{x_{12}^3x_{23}^2}, a_{25} = 0, \\ a_{34} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}^2}, a_{35} = 0, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2}{x_{12}^3x_{23}^2}, a_{25} = -\frac{x_{15}}{x_{12}}, \\ a_{34} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}^2}, a_{35} = 0, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{12}x_{14}x_{23} - (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{34}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = \frac{x_{14}x_{35}}{x_{12}x_{34}}, \\ a_{34} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}^2}, a_{35} = 0, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{12}x_{14}x_{23} - (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{34}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = -\frac{x_{15}x_{34} - x_{14}x_{35}}{x_{12}x_{34}}, \\ a_{34} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}^2}, a_{35} = 0, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$



$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = 0, \\ a_{34} &= \frac{1}{x_{12}x_{23}}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = -\frac{x_{15}}{x_{12}}, \\ a_{34} &= \frac{1}{x_{12}x_{23}}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = \frac{x_{14}x_{35}}{x_{12}x_{34}}, \\ a_{34} &= \frac{1}{x_{12}x_{23}}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = -\frac{x_{15}x_{34} - x_{14}x_{35}}{x_{12}x_{34}}, \\ a_{34} &= \frac{1}{x_{12}x_{23}}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2}{x_{12}^3x_{23}^2}, a_{25} = \frac{x_{13}x_{25}}{x_{12}x_{23}}, \\ a_{34} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}^2}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2}{x_{12}^3x_{23}^2}, a_{25} = -\frac{x_{15}x_{23} - x_{13}x_{25}}{x_{12}x_{23}}, \\ a_{34} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}^2}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{12}x_{14}x_{23} - (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{34}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = \frac{x_{13}x_{25}x_{34} + x_{14}x_{23}x_{35}}{x_{12}x_{23}x_{34}}, \\ a_{34} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}^2}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{12}x_{14}x_{23} - (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{34}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = \frac{x_{14}x_{23}x_{35} - (x_{15}x_{23} - x_{13}x_{25})x_{34}}{x_{12}x_{23}x_{34}}, \\ a_{34} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}^2}, a_{35} = -\frac{x_{25}}{x_{23}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = 0, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = \frac{x_{24}x_{35}}{x_{23}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = -\frac{x_{15}}{x_{12}}, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = \frac{x_{24}x_{35}}{x_{23}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = \frac{x_{14}x_{35}}{x_{12}x_{34}}, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = \frac{x_{24}x_{35}}{x_{23}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = -\frac{x_{15}x_{34} - x_{14}x_{35}}{x_{12}x_{34}}, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = \frac{x_{24}x_{35}}{x_{23}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{12}x_{13}x_{24} + (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{34}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = -\frac{x_{13}x_{24}x_{35}}{x_{12}x_{23}x_{34}}, \\ a_{34} &= -\frac{x_{12}x_{24} - (x_{12}x_{23} - x_{13})x_{34}}{x_{12}^2x_{23}^2x_{34}}, a_{35} = \frac{x_{24}x_{35}}{x_{23}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{12}x_{13}x_{24} + (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{34}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = -\frac{x_{15}x_{23}x_{34} + x_{13}x_{24}x_{35}}{x_{12}x_{23}x_{34}}, \\ a_{34} &= -\frac{x_{12}x_{24} - (x_{12}x_{23} - x_{13})x_{34}}{x_{12}^2x_{23}^2x_{34}}, a_{35} = \frac{x_{24}x_{35}}{x_{23}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{12}x_{14}x_{23} - x_{12}x_{13}x_{24} - (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{34}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = \frac{(x_{14}x_{23} - x_{13}x_{24})x_{35}}{x_{12}x_{23}x_{34}}, \\ a_{34} &= -\frac{x_{12}x_{24} - (x_{12}x_{23} - x_{13})x_{34}}{x_{12}^2x_{23}^2x_{34}}, a_{35} = \frac{x_{24}x_{35}}{x_{23}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{12}x_{14}x_{23} - x_{12}x_{13}x_{24} - (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{34}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = -\frac{x_{15}x_{23}x_{34} - (x_{14}x_{23} - x_{13}x_{24})x_{35}}{x_{12}x_{23}x_{34}}, \\ a_{34} &= -\frac{x_{12}x_{24} - (x_{12}x_{23} - x_{13})x_{34}}{x_{12}^2x_{23}^2x_{34}}, a_{35} = \frac{x_{24}x_{35}}{x_{23}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = 0, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = -\frac{x_{25}x_{34} - x_{24}x_{35}}{x_{23}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = -\frac{x_{15}}{x_{12}}, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = -\frac{x_{25}x_{34} - x_{24}x_{35}}{x_{23}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = \frac{x_{14}x_{35}}{x_{12}x_{34}}, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = -\frac{x_{25}x_{34} - x_{24}x_{35}}{x_{23}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = -\frac{x_{15}x_{34} - x_{14}x_{35}}{x_{12}x_{34}}, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = -\frac{x_{25}x_{34} - x_{24}x_{35}}{x_{23}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{12}x_{13}x_{24} + (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{34}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = \frac{x_{13}x_{25}x_{34} - x_{13}x_{24}x_{35}}{x_{12}x_{23}x_{34}}, \\ a_{34} &= -\frac{x_{12}x_{24} - (x_{12}x_{23} - x_{13})x_{34}}{x_{12}^2x_{23}^2x_{34}}, a_{35} = -\frac{x_{25}x_{34} - x_{24}x_{35}}{x_{23}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 : 1, d_2 : \frac{1}{x_{12}}, d_3 : \frac{1}{x_{12}x_{23}}, d_4 : \frac{1}{x_{12}x_{23}x_{34}}, d_5 : 1, \\ a_{12} : 1, a_{13} : 1, a_{14} : 1, a_{15} : 1, \\ a_{23} : \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} : \frac{x_{12}x_{13}x_{24} + (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{34}}{x_{12}^3x_{23}^2x_{34}}, a_{25} : -\frac{x_{13}x_{24}x_{35} + (x_{15}x_{23} - x_{13}x_{25})x_{34}}{x_{12}x_{23}x_{34}}, \\ a_{34} : -\frac{x_{12}x_{24} - (x_{12}x_{23} - x_{13})x_{34}}{x_{12}^2x_{23}^2x_{34}}, a_{35} : -\frac{x_{25}x_{34} - x_{24}x_{35}}{x_{23}x_{34}}, \\ a_{45} : -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 = 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} = 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} = \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{12}x_{14}x_{23} - x_{12}x_{13}x_{24} - (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{34}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = \frac{x_{13}x_{25}x_{34} + (x_{14}x_{23} - x_{13}x_{24})x_{35}}{x_{12}x_{23}x_{34}}, \\ a_{34} = -\frac{x_{12}x_{24} - (x_{12}x_{23} - x_{13})x_{34}}{x_{12}^2x_{23}^2x_{34}}, a_{35} = -\frac{x_{25}x_{34} - x_{24}x_{35}}{x_{23}x_{34}}, \\ a_{45} = -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 = 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = 1, \\ a_{12} = 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} = \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{12}x_{14}x_{23} - x_{12}x_{13}x_{24} - (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{34}}{x_{12}^3x_{23}^2x_{34}}, \\ a_{25} = -\frac{(x_{15}x_{23} - x_{13}x_{25})x_{34} - (x_{14}x_{23} - x_{13}x_{24})x_{35}}{x_{12}x_{23}x_{34}}, \\ a_{34} = -\frac{x_{12}x_{24} - (x_{12}x_{23} - x_{13})x_{34}}{x_{12}^2x_{23}^2x_{34}}, a_{35} = -\frac{x_{25}x_{34} - x_{24}x_{35}}{x_{23}x_{34}}, \\ a_{45} = -\frac{x_{35}}{x_{34}} \end{aligned}$$



APPENDIX I. SUBCASES OF  $Y_8$ 

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = -\frac{x_{15} - x_{45}}{x_{12}x_{45}}, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= -\frac{x_{12} - 1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= -\frac{(x_{12} - 1)x_{14}x_{45} + x_{15}}{x_{14}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 0, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 0, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{15} + (x_{12} - 1)x_{45}}{x_{13}x_{45}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 0, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= -\frac{x_{12} + x_{13} - 1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 0, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= -\frac{(x_{12} + x_{13} - 1)x_{14}x_{45} + x_{15}}{x_{14}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{x_{45}}{x_{12}x_{25}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{x_{45}}{x_{12}x_{25}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{x_{12}x_{25} - x_{15}}{x_{12}^2x_{25}}, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= 1 \end{aligned}$$

First assume  $x_{14} \neq \frac{-x_{12}x_{25}}{x_{45}}$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{x_{45}}{x_{12}x_{25} + x_{14}x_{45}}, d_5 = \frac{1}{x_{12}x_{25} + x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{12}x_{25} + x_{14}x_{45}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= -\frac{x_{12} - 1}{x_{14}} \end{aligned}$$

Now assume  $x_{14} = \frac{-x_{12}x_{25}}{x_{45}}$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{45}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= \frac{(x_{12} - 1)x_{45}}{x_{12}x_{25}} \end{aligned}$$

First assume  $x_{14} \neq \frac{-x_{12}x_{25}}{x_{45}}$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{x_{45}}{x_{12}x_{25} + x_{14}x_{45}}, d_5 = \frac{1}{x_{12}x_{25} + x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{12}x_{25} + x_{14}x_{45}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= -\frac{(x_{12} - 1)x_{14}x_{45} + x_{15} + (x_{12}^2 - x_{12})x_{25}}{x_{12}x_{14}x_{25} + x_{14}^2x_{45}} \end{aligned}$$

Now assume  $x_{14} = \frac{-x_{12}x_{25}}{x_{45}}$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{45}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= \frac{x_{15} + (x_{12} - 1)x_{45}}{x_{12}x_{25}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{x_{45}}{x_{12}x_{25}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{x_{45}}{x_{12}x_{25}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{15} + (x_{12}^2 - x_{12})x_{25}}{x_{12}x_{13}x_{25}}, \\ a_{45} &= 1 \end{aligned}$$

First assume  $x_{14} \neq \frac{-x_{12}x_{25}}{x_{45}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{x_{45}}{x_{12}x_{25} + x_{14}x_{45}}, d_5 = \frac{1}{x_{12}x_{25} + x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = \frac{x_{25}}{x_{12}x_{25} + x_{14}x_{45}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= -\frac{x_{12} + x_{13} - 1}{x_{14}} \end{aligned}$$

Now assume  $x_{14} = \frac{-x_{12}x_{25}}{x_{45}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = \frac{x_{25}}{x_{45}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= \frac{(x_{12} + x_{13} - 1)x_{45}}{x_{12}x_{25}} \end{aligned}$$

First assume  $x_{14} \neq \frac{-x_{12}x_{25}}{x_{45}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{x_{45}}{x_{12}x_{25} + x_{14}x_{45}}, d_5 = \frac{1}{x_{12}x_{25} + x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = \frac{x_{25}}{x_{12}x_{25} + x_{14}x_{45}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= -\frac{(x_{12} + x_{13} - 1)x_{14}x_{45} + x_{15} + (x_{12}^2 + x_{12}x_{13} - x_{12})x_{25}}{x_{12}x_{14}x_{25} + x_{14}^2x_{45}} \end{aligned}$$

Now assume  $x_{14} = \frac{-x_{12}x_{25}}{x_{45}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = \frac{x_{25}}{x_{45}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= \frac{x_{15} + (x_{12} + x_{13} - 1)x_{45}}{x_{12}x_{25}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{12}x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{x_{12}x_{24}x_{45} - x_{15}}{x_{12}^2x_{24}x_{45}}, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{12}x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = \frac{x_{12}^2x_{24}^2 - x_{12}x_{14}x_{24} + x_{14}^2}{x_{12}^3x_{24}^2}, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = -\frac{x_{12}x_{15}x_{24} - (x_{12}^2x_{24}^2 - x_{12}x_{14}x_{24} + x_{14}^2)x_{45}}{x_{12}^3x_{24}^2x_{45}}, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = -\frac{x_{12}-1}{x_{13}}, \\
 a_{45} &= \frac{1}{x_{12}x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = -\frac{(x_{12}^2 - x_{12})x_{24}x_{45} + x_{15}}{x_{12}x_{13}x_{24}x_{45}}, \\
 a_{45} &= \frac{1}{x_{12}x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = -\frac{x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - x_{12}^2)x_{24}^2}{x_{12}^2x_{13}x_{24}^2}, \\
 a_{45} &= \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}^2}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = -\frac{x_{12}x_{15}x_{24} + (x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - x_{12}^2)x_{24}^2)x_{45}}{x_{12}^2x_{13}x_{24}^2x_{45}}, \\
 a_{45} &= \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}^2}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{1}{x_{12}}, \\
 a_{34} &= 0, a_{35} = 1, \\
 a_{45} &= \frac{x_{24}x_{45} - x_{25}}{x_{12}x_{24}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{x_{12}x_{24}x_{45} - x_{15}}{x_{12}^2x_{24}x_{45}}, \\
 a_{34} &= 0, a_{35} = 1, \\
 a_{45} &= \frac{x_{24}x_{45} - x_{25}}{x_{12}x_{24}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = \frac{x_{12}x_{14}x_{25} + (x_{12}^2x_{24}^2 - x_{12}x_{14}x_{24} + x_{14}^2)x_{45}}{x_{12}^3x_{24}^2x_{45}}, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= -\frac{x_{12}x_{25} - (x_{12}x_{24} - x_{14})x_{45}}{x_{12}^2x_{24}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = -\frac{x_{12}x_{15}x_{24} - x_{12}x_{14}x_{25} - (x_{12}^2x_{24}^2 - x_{12}x_{14}x_{24} + x_{14}^2)x_{45}}{x_{12}^3x_{24}^2x_{45}}, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= -\frac{x_{12}x_{25} - (x_{12}x_{24} - x_{14})x_{45}}{x_{12}^2x_{24}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= \frac{x_{24}x_{45} - x_{25}}{x_{12}x_{24}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = -\frac{(x_{12}^2 - x_{12})x_{24}x_{45} + x_{15}}{x_{12}x_{13}x_{24}x_{45}}, \\
 a_{45} &= \frac{x_{24}x_{45} - x_{25}}{x_{12}x_{24}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = \frac{x_{12}x_{14}x_{25} - (x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - x_{12}^2)x_{24}^2)x_{45}}{x_{12}^2x_{13}x_{24}^2x_{45}}, \\
 a_{45} &= -\frac{x_{12}x_{25} - (x_{12}x_{24} - x_{14})x_{45}}{x_{12}^2x_{24}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = -\frac{x_{12}x_{15}x_{24} - x_{12}x_{14}x_{25} + (x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - x_{12}^2)x_{24}^2)x_{45}}{x_{12}^2x_{13}x_{24}^2x_{45}}, \\
 a_{45} &= -\frac{x_{12}x_{25} - (x_{12}x_{24} - x_{14})x_{45}}{x_{12}^2x_{24}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = 1, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 1 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = -\frac{x_{15} - x_{45}}{x_{12}x_{45}}, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = 1, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{14}x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{12} - 1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{14}x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{(x_{12} - 1)x_{14}x_{45} + x_{15}}{x_{14}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{x_{45}}{x_{13}x_{35}}, d_5 = \frac{1}{x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{x_{45}}{x_{13}x_{35}}, d_5 = \frac{1}{x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = -\frac{(x_{12} - 1)x_{13}x_{35} + x_{15}}{x_{13}^2x_{35}}, \\ a_{45} &= 1 \end{aligned}$$

First assume  $x_{14} \neq \frac{-x_{13}x_{35}}{x_{45}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{x_{45}}{x_{13}x_{35} + x_{14}x_{45}}, d_5 = \frac{1}{x_{13}x_{35} + x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{13}x_{35} + x_{14}x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{12} + x_{13} - 1}{x_{14}} \end{aligned}$$

Now assume  $x_{14} = \frac{-x_{13}x_{35}}{x_{45}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{(x_{12} + x_{13} - 1)x_{45}}{x_{13}x_{35}} \end{aligned}$$

First assume  $x_{14} \neq \frac{-x_{13}x_{35}}{x_{45}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{x_{45}}{x_{13}x_{35} + x_{14}x_{45}}, d_5 = \frac{1}{x_{13}x_{35} + x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{13}x_{35} + x_{14}x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{(x_{12} + x_{13} - 1)x_{14}x_{45} + x_{15} + (x_{13}^2 + (x_{12} - 1)x_{13})x_{35}}{x_{13}x_{14}x_{35} + x_{14}^2x_{45}} \end{aligned}$$

Now assume  $x_{14} = \frac{-x_{13}x_{35}}{x_{45}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{x_{15} + (x_{12} + x_{13} - 1)x_{45}}{x_{13}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{x_{45}}{x_{12}x_{25}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= \frac{x_{35}}{x_{12}x_{25}}, a_{35} = 1, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{x_{45}}{x_{12}x_{25}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{x_{12}x_{25} - x_{15}}{x_{12}^2x_{25}}, \\ a_{34} &= \frac{x_{35}}{x_{12}x_{25}}, a_{35} = 1, \\ a_{45} &= 1 \end{aligned}$$

First assume  $x_{14} \neq \frac{-x_{12}x_{25}}{x_{45}}$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{x_{45}}{x_{12}x_{25} + x_{14}x_{45}}, d_5 = \frac{1}{x_{12}x_{25} + x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{12}x_{25} + x_{14}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{12}x_{25} + x_{14}x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{12} - 1}{x_{14}} \end{aligned}$$

Now assume  $x_{14} = \frac{-x_{12}x_{25}}{x_{45}}$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{(x_{12} - 1)x_{45}}{x_{12}x_{25}} \end{aligned}$$

First assume  $x_{14} \neq \frac{-x_{12}x_{25}}{x_{45}}$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{x_{45}}{x_{12}x_{25} + x_{14}x_{45}}, d_5 = \frac{1}{x_{12}x_{25} + x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{12}x_{25} + x_{14}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{12}x_{25} + x_{14}x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{(x_{12} - 1)x_{14}x_{45} + x_{15} + (x_{12}^2 - x_{12})x_{25}}{x_{12}x_{14}x_{25} + x_{14}^2x_{45}} \end{aligned}$$

Now assume  $x_{14} = \frac{-x_{12}x_{25}}{x_{45}}$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{x_{15} + (x_{12} - 1)x_{45}}{x_{12}x_{25}} \end{aligned}$$

First assume  $x_{25} \neq \frac{-x_{13}x_{35}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{x_{45}}{x_{12}x_{25} + x_{13}x_{35}}, d_5 = \frac{1}{x_{12}x_{25} + x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = \frac{x_{25}}{x_{12}x_{25} + x_{13}x_{35}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{12}x_{25} + x_{13}x_{35}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= 1 \end{aligned}$$

Now assume  $x_{25} = \frac{-x_{13}x_{35}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = -\frac{x_{13}x_{35}}{x_{12}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= 1 \end{aligned}$$

First assume  $x_{25} \neq \frac{-x_{13}x_{35}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{x_{45}}{x_{12}x_{25} + x_{13}x_{35}}, d_5 = \frac{1}{x_{12}x_{25} + x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = \frac{x_{25}}{x_{12}x_{25} + x_{13}x_{35}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{12}x_{25} + x_{13}x_{35}}, a_{35} = -\frac{(x_{12} - 1)x_{13}x_{35} + x_{15} + (x_{12}^2 - x_{12})x_{25}}{x_{12}x_{13}x_{25} + x_{13}^2x_{35}}, \\ a_{45} &= 1 \end{aligned}$$

Now assume  $x_{25} = \frac{-x_{13}x_{35}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = -\frac{x_{13}x_{35}}{x_{12}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = -\frac{x_{15} + (x_{12} - 1)x_{45}}{x_{13}x_{45}}, \\ a_{45} &= 1 \end{aligned}$$

First assume  $x_{14} \neq \frac{-x_{12}x_{25} - x_{13}x_{35}}{x_{45}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{x_{45}}{x_{12}x_{25} + x_{13}x_{35} + x_{14}x_{45}}, d_5 = \frac{1}{x_{12}x_{25} + x_{13}x_{35} + x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = \frac{x_{25}}{x_{12}x_{25} + x_{13}x_{35} + x_{14}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{12}x_{25} + x_{13}x_{35} + x_{14}x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{12} + x_{13} - 1}{x_{14}} \end{aligned}$$

Now assume  $x_{14} = \frac{-x_{12}x_{25} - x_{13}x_{35}}{x_{45}}$  and  $x_{25} \neq \frac{-x_{13}x_{35}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = \frac{x_{25}}{x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{(x_{12} + x_{13} - 1)x_{45}}{x_{12}x_{25} + x_{13}x_{35}} \end{aligned}$$

Now assume  $x_{14} = \frac{-x_{12}x_{25} - x_{13}x_{35}}{x_{45}}$  and  $x_{25} = \frac{-x_{13}x_{35}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = -\frac{x_{13}x_{35}}{x_{12}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= 1 \end{aligned}$$

First assume  $x_{14} \neq \frac{-x_{12}x_{25} - x_{13}x_{35}}{x_{45}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{x_{45}}{x_{12}x_{25} + x_{13}x_{35} + x_{14}x_{45}}, d_5 = \frac{1}{x_{12}x_{25} + x_{13}x_{35} + x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = \frac{x_{25}}{x_{12}x_{25} + x_{13}x_{35} + x_{14}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{12}x_{25} + x_{13}x_{35} + x_{14}x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{(x_{12} + x_{13} - 1)x_{14}x_{45} + x_{15} + (x_{12}^2 + x_{12}x_{13} - x_{12})x_{25} + (x_{13}^2 + (x_{12} - 1)x_{13})x_{35}}{x_{12}x_{14}x_{25} + x_{13}x_{14}x_{35} + x_{14}^2x_{45}} \end{aligned}$$

Now assume  $x_{14} = \frac{-x_{12}x_{25} - x_{13}x_{35}}{x_{45}}$  and  $x_{25} \neq \frac{-x_{13}x_{35}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = \frac{x_{25}}{x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{x_{15} + (x_{12} + x_{13} - 1)x_{45}}{x_{12}x_{25} + x_{13}x_{35}} \end{aligned}$$

Now assume  $x_{14} = \frac{-x_{12}x_{25} - x_{13}x_{35}}{x_{45}}$  and  $x_{25} = \frac{-x_{13}x_{35}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = -\frac{x_{13}x_{35}}{x_{12}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = -\frac{x_{15} + (x_{12} - 1)x_{45}}{x_{13}x_{45}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= \frac{x_{35}}{x_{12}x_{24}x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{12}x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{x_{12}x_{24}x_{45} - x_{15}}{x_{12}^2x_{24}x_{45}}, \\ a_{34} &= \frac{x_{35}}{x_{12}x_{24}x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{12}x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = \frac{x_{12}^2x_{24}^2 - x_{12}x_{14}x_{24} + x_{14}^2}{x_{12}^3x_{24}^2}, \\ a_{34} &= \frac{x_{35}}{x_{12}x_{24}x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = -\frac{x_{12}x_{15}x_{24} - (x_{12}^2x_{24}^2 - x_{12}x_{14}x_{24} + x_{14}^2)x_{45}}{x_{12}^3x_{24}^2x_{45}}, \\ a_{34} &= \frac{x_{35}}{x_{12}x_{24}x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = \frac{x_{12}x_{24}x_{45} - x_{13}x_{35}}{x_{12}^2x_{24}x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{x_{35}}{x_{12}x_{24}x_{45}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\
 a_{45} &= \frac{x_{12}x_{24}x_{45} - x_{13}x_{35}}{x_{12}^2x_{24}x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = \frac{x_{12}x_{24}x_{45} - x_{13}x_{35}}{x_{12}^2x_{24}x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{x_{35}}{x_{12}x_{24}x_{45}}, a_{35} = -\frac{(x_{12}^2 - x_{12})x_{24}x_{45} + x_{15}}{x_{12}x_{13}x_{24}x_{45}}, \\
 a_{45} &= \frac{x_{12}x_{24}x_{45} - x_{13}x_{35}}{x_{12}^2x_{24}x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = -\frac{x_{13}x_{35} - (x_{12}x_{24} - x_{14})x_{45}}{x_{12}^2x_{24}x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{x_{35}}{x_{12}x_{24}x_{45}}, a_{35} = \frac{x_{13}x_{14}x_{35} - (x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - x_{12}^2)x_{24}^2)x_{45}}{x_{12}^2x_{13}x_{24}x_{45}}, \\
 a_{45} &= -\frac{x_{13}x_{35} - (x_{12}x_{24} - x_{14})x_{45}}{x_{12}^2x_{24}x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = -\frac{x_{13}x_{35} - (x_{12}x_{24} - x_{14})x_{45}}{x_{12}^2x_{24}x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{x_{35}}{x_{12}x_{24}x_{45}}, a_{35} = -\frac{x_{12}x_{15}x_{24} - x_{13}x_{14}x_{35} + (x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - x_{12}^2)x_{24}^2)x_{45}}{x_{12}^2x_{13}x_{24}^2x_{45}}, \\
 a_{45} &= -\frac{x_{13}x_{35} - (x_{12}x_{24} - x_{14})x_{45}}{x_{12}^2x_{24}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{1}{x_{12}}, \\
 a_{34} &= \frac{x_{35}}{x_{12}x_{24}x_{45}}, a_{35} = 1, \\
 a_{45} &= \frac{x_{24}x_{45} - x_{25}}{x_{12}x_{24}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{x_{12}x_{24}x_{45} - x_{15}}{x_{12}^2x_{24}x_{45}}, \\
 a_{34} &= \frac{x_{35}}{x_{12}x_{24}x_{45}}, a_{35} = 1, \\
 a_{45} &= \frac{x_{24}x_{45} - x_{25}}{x_{12}x_{24}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = \frac{x_{12}x_{14}x_{25} + (x_{12}^2x_{24}^2 - x_{12}x_{14}x_{24} + x_{14}^2)x_{45}}{x_{12}^3x_{24}^2x_{45}}, \\
 a_{34} &= \frac{x_{35}}{x_{12}x_{24}x_{45}}, a_{35} = 1, \\
 a_{45} &= -\frac{x_{12}x_{25} - (x_{12}x_{24} - x_{14})x_{45}}{x_{12}^2x_{24}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = -\frac{x_{12}x_{15}x_{24} - x_{12}x_{14}x_{25} - (x_{12}^2x_{24}^2 - x_{12}x_{14}x_{24} + x_{14}^2)x_{45}}{x_{12}^3x_{24}^2x_{45}}, \\
 a_{34} &= \frac{x_{35}}{x_{12}x_{24}x_{45}}, a_{35} = 1, \\
 a_{45} &= -\frac{x_{12}x_{25} - (x_{12}x_{24} - x_{14})x_{45}}{x_{12}^2x_{24}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = \frac{x_{12}x_{24}x_{45} - x_{13}x_{35}}{x_{12}^2x_{24}x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{x_{35}}{x_{12}x_{24}x_{45}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\
 a_{45} &= \frac{x_{12}x_{24}x_{45} - x_{12}x_{25} - x_{13}x_{35}}{x_{12}^2x_{24}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = \frac{x_{12}x_{24}x_{45} - x_{13}x_{35}}{x_{12}^2x_{24}x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{x_{35}}{x_{12}x_{24}x_{45}}, a_{35} = -\frac{(x_{12}^2 - x_{12})x_{24}x_{45} + x_{15}}{x_{12}x_{13}x_{24}x_{45}}, \\
 a_{45} &= \frac{x_{12}x_{24}x_{45} - x_{12}x_{25} - x_{13}x_{35}}{x_{12}^2x_{24}x_{45}} \\
 x &= \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}
 \end{aligned}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = -\frac{x_{13}x_{35} - (x_{12}x_{24} - x_{14})x_{45}}{x_{12}^2x_{24}x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{x_{35}}{x_{12}x_{24}x_{45}}, a_{35} = \frac{x_{12}x_{14}x_{25} + x_{13}x_{14}x_{35} - (x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - x_{12}^2)x_{24}^2)x_{45}}{x_{12}^2x_{13}x_{24}^2x_{45}}, \\
 a_{45} &= -\frac{x_{12}x_{25} + x_{13}x_{35} - (x_{12}x_{24} - x_{14})x_{45}}{x_{12}^2x_{24}^2x_{45}} \\
 x &= \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}
 \end{aligned}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = -\frac{x_{13}x_{35} - (x_{12}x_{24} - x_{14})x_{45}}{x_{12}^2x_{24}x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{x_{35}}{x_{12}x_{24}x_{45}}, a_{35} = -\frac{x_{12}x_{15}x_{24} - x_{12}x_{14}x_{25} - x_{13}x_{14}x_{35} + (x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - x_{12}^2)x_{24}^2)x_{45}}{x_{12}^2x_{13}x_{24}^2x_{45}}, \\
 a_{45} &= -\frac{x_{12}x_{25} + x_{13}x_{35} - (x_{12}x_{24} - x_{14})x_{45}}{x_{12}^2x_{24}^2x_{45}}
 \end{aligned}$$

#### APPENDIX J. SUBCASES OF $Y_9$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= 0, a_{35} = 0, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = -\frac{x_{15} - x_{45}}{x_{12}x_{45}}, \\ a_{34} &= 0, a_{35} = 0, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{14}}{x_{12}x_{23}}, \\ a_{45} &= -\frac{x_{12} - 1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{14}}{x_{12}x_{23}}, \\ a_{45} &= -\frac{x_{15} + (x_{12} - 1)x_{45}}{x_{14}x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = 0, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= 0, a_{35} = 0, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = 0, a_{25} = -\frac{x_{15} - x_{45}}{x_{12}x_{45}}, \\ a_{34} &= 0, a_{35} = 0, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{14}}{x_{12}x_{23}}, \\ a_{45} &= \frac{x_{13}x_{14} - (x_{12}^2 - x_{12})x_{23}}{x_{12}x_{14}x_{23}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{14}}{x_{12}x_{23}}, \\ a_{45} &= -\frac{x_{12}x_{15}x_{23} - (x_{13}x_{14} - (x_{12}^2 - x_{12})x_{23})x_{45}}{x_{12}x_{14}x_{23}x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= 0, a_{35} = -\frac{x_{25}}{x_{23}x_{45}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = -\frac{x_{15} - x_{45}}{x_{12}x_{45}}, \\ a_{34} &= 0, a_{35} = -\frac{x_{25}}{x_{23}x_{45}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{12}x_{25} + x_{14}x_{45}}{x_{12}x_{23}x_{45}}, \\ a_{45} &= -\frac{x_{12} - 1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{12}x_{25} + x_{14}x_{45}}{x_{12}x_{23}x_{45}}, \\ a_{45} &= -\frac{x_{15} + (x_{12} - 1)x_{45}}{x_{14}x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = 0, a_{25} = \frac{x_{13}x_{25} + x_{23}x_{45}}{x_{12}x_{23}x_{45}}, \\
 a_{34} &= 0, a_{35} = -\frac{x_{25}}{x_{23}x_{45}}, \\
 a_{45} &= 1
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = 0, a_{25} = -\frac{x_{15}x_{23} - x_{13}x_{25} - x_{23}x_{45}}{x_{12}x_{23}x_{45}}, \\
 a_{34} &= 0, a_{35} = -\frac{x_{25}}{x_{23}x_{45}}, \\
 a_{45} &= 1
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = -\frac{x_{12}x_{25} + x_{14}x_{45}}{x_{12}x_{23}x_{45}}, \\
 a_{45} &= \frac{x_{12}x_{13}x_{25} + (x_{13}x_{14} - (x_{12}^2 - x_{12})x_{23})x_{45}}{x_{12}x_{14}x_{23}x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = -\frac{x_{12}x_{25} + x_{14}x_{45}}{x_{12}x_{23}x_{45}}, \\
 a_{45} &= -\frac{x_{12}x_{15}x_{23} - x_{12}x_{13}x_{25} - (x_{13}x_{14} - (x_{12}^2 - x_{12})x_{23})x_{45}}{x_{12}x_{14}x_{23}x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = \frac{2}{x_{12}}, \\
 a_{34} &= -\frac{1}{x_{12}x_{23}}, a_{35} = 1, \\
 a_{45} &= -\frac{x_{12}x_{23} - 1}{x_{12}x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = \frac{2x_{12}x_{24}x_{45} - x_{15}}{x_{12}^2x_{24}x_{45}}, \\
 a_{34} &= -\frac{1}{x_{12}x_{23}}, a_{35} = 1, \\
 a_{45} &= -\frac{x_{12}x_{23} - 1}{x_{12}x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}}{x_{12}^2x_{24}}, a_{25} = 1, \\
 a_{34} &= -\frac{1}{x_{12}x_{23}}, a_{35} = \frac{x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - 2x_{12}^2)x_{24}^2}{x_{12}^2x_{14}x_{23}x_{24}}, \\
 a_{45} &= -\frac{x_{12} - 2}{x_{14}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}}{x_{12}^2x_{24}}, a_{25} = 1, \\
 a_{34} &= -\frac{1}{x_{12}x_{23}}, a_{35} = \frac{x_{12}x_{15}x_{24} + (x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - 2x_{12}^2)x_{24}^2)x_{45}}{x_{12}^2x_{14}x_{23}x_{24}x_{45}}, \\
 a_{45} &= -\frac{(x_{12}^2 - 2x_{12})x_{24}x_{45} + x_{15}}{x_{12}x_{14}x_{24}x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{13}}{x_{12}^2x_{23}}, a_{25} = 1, \\
 a_{34} &= -\frac{1}{x_{12}x_{23}}, a_{35} = -\frac{x_{12} - 2}{x_{13}}, \\
 a_{45} &= \frac{x_{13} + (x_{12}^2 - 2x_{12})x_{23}}{x_{12}x_{13}x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{13}}{x_{12}^2x_{23}}, a_{25} = 1, \\ a_{34} &= -\frac{1}{x_{12}x_{23}}, a_{35} = -\frac{(x_{12}^2 - 2x_{12})x_{24}x_{45} + x_{15}}{x_{12}x_{13}x_{24}x_{45}}, \\ a_{45} &= \frac{x_{15}x_{23} + (x_{13} + (x_{12}^2 - 2x_{12})x_{23})x_{24}x_{45}}{x_{12}x_{13}x_{24}^2x_{45}} \end{aligned}$$

First assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{14}x_{23} - x_{13}x_{24}}{x_{12}^2x_{23}x_{24}}, a_{25} = 1, \\ a_{34} &= -\frac{1}{x_{12}x_{23}}, a_{35} = \frac{x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - 2x_{12}^2)x_{24}^2}{x_{12}^2x_{14}x_{23}x_{24} - x_{12}^2x_{13}x_{24}^2}, \\ a_{45} &= \frac{x_{13}x_{14} - (x_{12}x_{13} + (x_{12}^3 - 2x_{12}^2)x_{23})x_{24}}{x_{12}^2x_{14}x_{23}x_{24} - x_{12}^2x_{13}x_{24}^2} \end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = 0, a_{25} = \frac{2x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2}{x_{12}^3x_{23}^2}, \\ a_{34} &= -\frac{1}{x_{12}x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{12}^2x_{23}^2 - x_{12}x_{23} + x_{13}}{x_{12}^2x_{23}x_{24}} \end{aligned}$$

First assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{14}x_{23} - x_{13}x_{24}}{x_{12}^2x_{23}x_{24}}, a_{25} = 1, \\ a_{34} &= -\frac{1}{x_{12}x_{23}}, a_{35} = \frac{x_{12}x_{15}x_{24} + (x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - 2x_{12}^2)x_{24}^2)x_{45}}{(x_{12}^2x_{14}x_{23}x_{24} - x_{12}^2x_{13}x_{24}^2)x_{45}}, \\ a_{45} &= -\frac{x_{12}x_{15}x_{23} - (x_{13}x_{14} - (x_{12}x_{13} + (x_{12}^3 - 2x_{12}^2)x_{23})x_{24})x_{45}}{(x_{12}^2x_{14}x_{23}x_{24} - x_{12}^2x_{13}x_{24}^2)x_{45}} \end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = 0, a_{25} = -\frac{x_{12}x_{15}x_{23}^2 - (2x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{24}x_{45}}{x_{12}^3x_{23}^2x_{24}x_{45}}, \\ a_{34} &= -\frac{1}{x_{12}x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{12}^2x_{23}^2 - x_{12}x_{23} + x_{13}}{x_{12}^2x_{23}x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = \frac{2}{x_{12}}, \\ a_{34} &= -\frac{1}{x_{12}x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{(x_{12}x_{23} - 1)x_{24}x_{45} + x_{25}}{x_{12}x_{24}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = \frac{2x_{12}x_{24}x_{45} - x_{15}}{x_{12}^2x_{24}x_{45}}, \\ a_{34} &= -\frac{1}{x_{12}x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{(x_{12}x_{23} - 1)x_{24}x_{45} + x_{25}}{x_{12}x_{24}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}}{x_{12}^2x_{24}}, a_{25} = 1, \\ a_{34} &= -\frac{1}{x_{12}x_{23}}, a_{35} = -\frac{x_{12}x_{14}x_{25} - (x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - 2x_{12}^2)x_{24}^2)x_{45}}{x_{12}^2x_{14}x_{23}x_{24}x_{45}}, \\ a_{45} &= -\frac{x_{12} - 2}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}}{x_{12}^2x_{24}}, a_{25} = 1, \\ a_{34} &= -\frac{1}{x_{12}x_{23}}, a_{35} = \frac{x_{12}x_{15}x_{24} - x_{12}x_{14}x_{25} + (x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - 2x_{12}^2)x_{24}^2)x_{45}}{x_{12}^2x_{14}x_{23}x_{24}x_{45}}, \\ a_{45} &= -\frac{(x_{12}^2 - 2x_{12})x_{24}x_{45} + x_{15}}{x_{12}x_{14}x_{24}x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{13}}{x_{12}^2x_{23}}, a_{25} = 1, \\ a_{34} &= -\frac{1}{x_{12}x_{23}}, a_{35} = -\frac{x_{12} - 2}{x_{13}}, \\ a_{45} &= -\frac{x_{13}x_{25} - (x_{13} + (x_{12}^2 - 2x_{12})x_{23})x_{24}x_{45}}{x_{12}x_{13}x_{24}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{13}}{x_{12}^2x_{23}}, a_{25} = 1, \\ a_{34} &= -\frac{1}{x_{12}x_{23}}, a_{35} = -\frac{(x_{12}^2 - 2x_{12})x_{24}x_{45} + x_{15}}{x_{12}x_{13}x_{24}x_{45}}, \\ a_{45} &= \frac{x_{15}x_{23} - x_{13}x_{25} + (x_{13} + (x_{12}^2 - 2x_{12})x_{23})x_{24}x_{45}}{x_{12}x_{13}x_{24}^2x_{45}} \end{aligned}$$

First assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{14}x_{23} - x_{13}x_{24}}{x_{12}^2x_{23}x_{24}}, a_{25} = 1, \\ a_{34} &= -\frac{1}{x_{12}x_{23}}, a_{35} = -\frac{x_{12}x_{14}x_{25} - (x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - 2x_{12}^2)x_{24}^2)x_{45}}{(x_{12}^2x_{14}x_{23}x_{24} - x_{12}^2x_{13}x_{24}^2)x_{45}}, \\ a_{45} &= \frac{x_{12}x_{13}x_{25} + (x_{13}x_{14} - (x_{12}x_{13} + (x_{12}^3 - 2x_{12}^2)x_{23})x_{24})x_{45}}{(x_{12}^2x_{14}x_{23}x_{24} - x_{12}^2x_{13}x_{24}^2)x_{45}} \end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = 0, a_{25} = \frac{x_{12}x_{13}x_{23}x_{25} + (2x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{24}x_{45}}{x_{12}^3x_{23}^2x_{24}x_{45}}, \\ a_{34} &= -\frac{1}{x_{12}x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{12}x_{23}x_{25} + (x_{12}^2x_{23}^2 - x_{12}x_{23} + x_{13})x_{24}x_{45}}{x_{12}^2x_{23}x_{24}^2x_{45}} \end{aligned}$$

First assume  $x_{14} \neq \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{14}x_{23} - x_{13}x_{24}}{x_{12}^2x_{23}x_{24}}, a_{25} = 1, \\ a_{34} &= -\frac{1}{x_{12}x_{23}}, a_{35} = \frac{x_{12}x_{15}x_{24} - x_{12}x_{14}x_{25} + (x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - 2x_{12}^2)x_{24}^2)x_{45}}{(x_{12}^2x_{14}x_{23}x_{24} - x_{12}^2x_{13}x_{24}^2)x_{45}}, \\ a_{45} &= -\frac{x_{12}x_{15}x_{23} - x_{12}x_{13}x_{25} - (x_{13}x_{14} - (x_{12}x_{13} + (x_{12}^3 - 2x_{12}^2)x_{23})x_{24})x_{45}}{(x_{12}^2x_{14}x_{23}x_{24} - x_{12}^2x_{13}x_{24}^2)x_{45}} \end{aligned}$$

Now assume  $x_{14} = \frac{x_{13}x_{24}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = 0, a_{25} = -\frac{x_{12}x_{15}x_{23}^2 - x_{12}x_{13}x_{23}x_{25} - (2x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{24}x_{45}}{x_{12}^3x_{23}^2x_{24}x_{45}}, \\
 a_{34} &= -\frac{1}{x_{12}x_{23}}, a_{35} = 1, \\
 a_{45} &= -\frac{x_{12}x_{23}x_{25} + (x_{12}^2x_{23}^2 - x_{12}x_{23} + x_{13})x_{24}x_{45}}{x_{12}^2x_{23}x_{24}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35}}, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = \frac{2}{x_{12}}, \\
 a_{34} &= 0, a_{35} = \frac{1}{x_{12}x_{23}}, \\
 a_{45} &= 1
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35}}, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = \frac{2x_{12}x_{23}x_{35} - x_{15}}{x_{12}^2x_{23}x_{35}}, \\
 a_{34} &= 0, a_{35} = \frac{1}{x_{12}x_{23}}, \\
 a_{45} &= 1
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35}}, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}x_{45}}{x_{12}^2x_{23}x_{35}}, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = \frac{x_{12}x_{23}x_{35} - x_{14}x_{45}}{x_{12}^2x_{23}^2x_{35}}, \\
 a_{45} &= -\frac{x_{12} - 2}{x_{14}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35}}, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}x_{45}}{x_{12}^2x_{23}x_{35}}, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = \frac{x_{12}x_{23}x_{35} - x_{14}x_{45}}{x_{12}^2x_{23}^2x_{35}}, \\
 a_{45} &= -\frac{(x_{12}^2 - 2x_{12})x_{23}x_{35} + x_{15}}{x_{12}x_{14}x_{23}x_{35}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35}}, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = 0, a_{25} = \frac{2x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2}{x_{12}^3x_{23}^2}, \\
 a_{34} &= 0, a_{35} = \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}^2}, \\
 a_{45} &= 1
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35}}, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = 0, a_{25} = -\frac{x_{12}x_{15}x_{23} - (2x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{35}}{x_{12}^3x_{23}^2x_{35}}, \\
 a_{34} &= 0, a_{35} = \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}^2}, \\
 a_{45} &= 1
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35}}, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{14}x_{45}}{x_{12}^2x_{23}x_{35}}, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = -\frac{x_{14}x_{45} - (x_{12}x_{23} - x_{13})x_{35}}{x_{12}^2x_{23}^2x_{35}}, \\
 a_{45} &= \frac{x_{13}x_{14}x_{45} - (x_{12}x_{13}x_{23} - x_{13}^2 + (x_{12}^3 - 2x_{12}^2)x_{23}^2)x_{35}}{x_{12}^2x_{14}x_{23}^2x_{35}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35}}, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{14}x_{45}}{x_{12}^2x_{23}x_{35}}, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = -\frac{x_{14}x_{45} - (x_{12}x_{23} - x_{13})x_{35}}{x_{12}^2x_{23}^2x_{35}}, \\
 a_{45} &= -\frac{x_{12}x_{15}x_{23} - x_{13}x_{14}x_{45} + (x_{12}x_{13}x_{23} - x_{13}^2 + (x_{12}^3 - 2x_{12}^2)x_{23}^2)x_{35}}{x_{12}^2x_{14}x_{23}^2x_{35}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35}}, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = \frac{2}{x_{12}}, \\
 a_{34} &= 0, a_{35} = \frac{x_{23}x_{35} - x_{25}}{x_{12}x_{23}^2x_{35}}, \\
 a_{45} &= 1
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35}}, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = \frac{2x_{12}x_{23}x_{35} - x_{15}}{x_{12}^2x_{23}x_{35}}, \\
 a_{34} &= 0, a_{35} = \frac{x_{23}x_{35} - x_{25}}{x_{12}x_{23}^2x_{35}}, \\
 a_{45} &= 1
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35}}, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}x_{45}}{x_{12}^2x_{23}x_{35}}, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = \frac{x_{12}x_{23}x_{35} - x_{12}x_{25} - x_{14}x_{45}}{x_{12}^2x_{23}^2x_{35}}, \\
 a_{45} &= -\frac{x_{12} - 2}{x_{14}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35}}, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}x_{45}}{x_{12}^2x_{23}x_{35}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{x_{12}x_{23}x_{35} - x_{12}x_{25} - x_{14}x_{45}}{x_{12}^2x_{23}^2x_{35}}, \\ a_{45} &= -\frac{(x_{12}^2 - 2x_{12})x_{23}x_{35} + x_{15}}{x_{12}x_{14}x_{23}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35}}, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = 0, a_{25} = \frac{x_{12}x_{13}x_{25} + (2x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{35}}{x_{12}^3x_{23}^2x_{35}}, \\ a_{34} &= 0, a_{35} = -\frac{x_{12}x_{25} - (x_{12}x_{23} - x_{13})x_{35}}{x_{12}^2x_{23}^2x_{35}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35}}, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = 0, a_{25} = -\frac{x_{12}x_{15}x_{23} - x_{12}x_{13}x_{25} - (2x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{35}}{x_{12}^3x_{23}^2x_{35}}, \\ a_{34} &= 0, a_{35} = -\frac{x_{12}x_{25} - (x_{12}x_{23} - x_{13})x_{35}}{x_{12}^2x_{23}^2x_{35}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35}}, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{14}x_{45}}{x_{12}^2x_{23}x_{35}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{12}x_{25} + x_{14}x_{45} - (x_{12}x_{23} - x_{13})x_{35}}{x_{12}^2x_{23}^2x_{35}}, \\ a_{45} &= \frac{x_{12}x_{13}x_{25} + x_{13}x_{14}x_{45} - (x_{12}x_{13}x_{23} - x_{13}^2 + (x_{12}^3 - 2x_{12}^2)x_{23}^2)x_{35}}{x_{12}^2x_{14}x_{23}^2x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35}}, d_5 = \frac{1}{x_{12}x_{23}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{14}x_{45}}{x_{12}^2x_{23}x_{35}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{12}x_{25} + x_{14}x_{45} - (x_{12}x_{23} - x_{13})x_{35}}{x_{12}^2x_{23}^2x_{35}}, \\ a_{45} &= -\frac{x_{12}x_{15}x_{23} - x_{12}x_{13}x_{25} - x_{13}x_{14}x_{45} + (x_{12}x_{13}x_{23} - x_{13}^2 + (x_{12}^3 - 2x_{12}^2)x_{23}^2)x_{35}}{x_{12}^2x_{14}x_{23}^2x_{35}} \end{aligned}$$

First assume  $x_{35} \neq \frac{-x_{24}x_{45}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, d_5 = \frac{1}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = \frac{2}{x_{12}}, \\ a_{34} &= -\frac{x_{24}x_{45}}{x_{12}x_{23}^2x_{35} + x_{12}x_{23}x_{24}x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{12}x_{23} - 1}{x_{12}x_{24}} \end{aligned}$$

Now assume  $x_{35} = \frac{-x_{24}x_{45}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{23}}{x_{24}} \end{aligned}$$

First assume  $x_{35} \neq \frac{-x_{24}x_{45}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, d_5 = \frac{1}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = \frac{2x_{12}x_{23}x_{35} + 2x_{12}x_{24}x_{45} - x_{15}}{x_{12}^2x_{23}x_{35} + x_{12}^2x_{24}x_{45}}, \\ a_{34} &= -\frac{x_{24}x_{45}}{x_{12}x_{23}^2x_{35} + x_{12}x_{23}x_{24}x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{12}x_{23} - 1}{x_{12}x_{24}} \end{aligned}$$

Now assume  $x_{35} = \frac{-x_{24}x_{45}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = -\frac{x_{15} - x_{45}}{x_{12}x_{45}}, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{23}}{x_{24}} \end{aligned}$$

First assume  $x_{35} \neq \frac{-x_{24}x_{45}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, d_5 = \frac{1}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}x_{45}}{x_{12}^2x_{23}x_{35} + x_{12}^2x_{24}x_{45}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}x_{45}}{x_{12}x_{23}^2x_{35} + x_{12}x_{23}x_{24}x_{45}}, a_{35} = \frac{(x_{12}x_{14}x_{23} + (x_{12}^3 - 2x_{12}^2)x_{23}x_{24})x_{35} + (x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - 2x_{12}^2)x_{24}^2)x_{45}}{x_{12}^2x_{14}x_{23}^2x_{35} + x_{12}^2x_{14}x_{23}x_{24}x_{45}}, \\ a_{45} &= -\frac{x_{12} - 2}{x_{14}} \end{aligned}$$

Now assume  $x_{35} = \frac{-x_{24}x_{45}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = -\frac{x_{14}^2 - (x_{12}^2 - x_{12})x_{24}}{x_{12}x_{14}x_{23}}, \\ a_{45} &= -\frac{x_{12} - 1}{x_{14}} \end{aligned}$$

First assume  $x_{35} \neq \frac{-x_{24}x_{45}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, d_5 = \frac{1}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}x_{45}}{x_{12}^2x_{23}x_{35} + x_{12}^2x_{24}x_{45}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}x_{45}}{x_{12}x_{23}^2x_{35} + x_{12}x_{23}x_{24}x_{45}}, \\ a_{35} &= \frac{x_{12}x_{15}x_{24} + (x_{12}x_{14}x_{23} + (x_{12}^3 - 2x_{12}^2)x_{23}x_{24})x_{35} + (x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - 2x_{12}^2)x_{24}^2)x_{45}}{x_{12}^2x_{14}x_{23}^2x_{35} + x_{12}^2x_{14}x_{23}x_{24}x_{45}}, \\ a_{45} &= -\frac{(x_{12}^2 - 2x_{12})x_{23}x_{35} + (x_{12}^2 - 2x_{12})x_{24}x_{45} + x_{15}}{x_{12}x_{14}x_{23}x_{35} + x_{12}x_{14}x_{24}x_{45}} \end{aligned}$$

Now assume  $x_{35} = \frac{-x_{24}x_{45}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = \frac{x_{12}x_{15}x_{24} - (x_{14}^2 - (x_{12}^2 - x_{12})x_{24})x_{45}}{x_{12}x_{14}x_{23}x_{45}}, \\ a_{45} &= -\frac{x_{15} + (x_{12} - 1)x_{45}}{x_{14}x_{45}} \end{aligned}$$

First assume  $x_{35} \neq \frac{-x_{24}x_{45}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, d_5 = \frac{1}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{13}x_{24}x_{45}}{x_{12}^2x_{23}x_{35} + x_{12}^2x_{23}x_{24}x_{45}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}x_{45}}{x_{12}x_{23}x_{35} + x_{12}x_{23}x_{24}x_{45}}, a_{35} = -\frac{x_{12} - 2}{x_{13}}, \\ a_{45} &= \frac{(x_{12}x_{13} + (x_{12}^3 - 2x_{12}^2)x_{23})x_{24}x_{45} + (x_{12}x_{13}x_{23} - x_{13}^2 + (x_{12}^3 - 2x_{12}^2)x_{23}^2)x_{35}}{x_{12}^2x_{13}x_{23}x_{24}x_{35} + x_{12}^2x_{13}x_{24}^2x_{45}} \end{aligned}$$

Now assume  $x_{35} = \frac{-x_{24}x_{45}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{13}x_{24}}{x_{12}x_{23}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= \frac{x_{13}x_{24} + (x_{12}^2 - x_{12})x_{23}^2}{x_{12}x_{13}x_{23}x_{24}} \end{aligned}$$

First assume  $x_{35} \neq \frac{-x_{24}x_{45}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, d_5 = \frac{1}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{13}x_{24}x_{45}}{x_{12}^2x_{23}^2x_{35} + x_{12}^2x_{23}x_{24}x_{45}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}x_{45}}{x_{12}x_{23}^2x_{35} + x_{12}x_{23}x_{24}x_{45}}, a_{35} = -\frac{(x_{12}^2 - 2x_{12})x_{23}x_{35} + (x_{12}^2 - 2x_{12})x_{24}x_{45} + x_{15}}{x_{12}x_{13}x_{23}x_{35} + x_{12}x_{13}x_{24}x_{45}}, \\ a_{45} &= \frac{x_{12}x_{15}x_{23} + (x_{12}x_{13} + (x_{12}^3 - 2x_{12}^2)x_{23})x_{24}x_{45} + (x_{12}x_{13}x_{23} - x_{13}^2 + (x_{12}^3 - 2x_{12}^2)x_{23}^2)x_{35}}{x_{12}^2x_{13}x_{23}x_{24}x_{35} + x_{12}^2x_{13}x_{24}x_{45}} \end{aligned}$$

Now assume  $x_{35} = \frac{-x_{24}x_{45}}{x_{23}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{13}x_{24}}{x_{12}x_{23}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}}{x_{23}}, a_{35} = -\frac{x_{15} + (x_{12} - 1)x_{45}}{x_{13}x_{45}}, \\ a_{45} &= \frac{x_{12}x_{15}x_{23}^2 + (x_{13}^2x_{24} + (x_{12}^2 - x_{12})x_{23}^2)x_{45}}{x_{12}x_{13}x_{23}x_{24}x_{45}} \end{aligned}$$

First assume  $x_{23} \neq \frac{-x_{24}x_{45}}{x_{35}}$  and  $x_{23} \neq \frac{x_{13}x_{24}}{x_{14}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, d_5 = \frac{1}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{(x_{14}x_{23} - x_{13}x_{24})x_{45}}{x_{12}^2x_{23}^2x_{35} + x_{12}^2x_{23}x_{24}x_{45}}, a_{25} = 1, \\
 a_{34} &= -\frac{x_{24}x_{45}}{x_{12}x_{23}^2x_{35} + x_{12}x_{23}x_{24}x_{45}}, \\
 a_{35} &= \frac{(x_{12}x_{14}x_{23} - x_{13}x_{14} + (x_{12}^3 - 2x_{12}^2)x_{23}x_{24})x_{35} + (x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - 2x_{12}^2)x_{24}^2)x_{45}}{(x_{12}^2x_{14}x_{23}^2 - x_{12}^2x_{13}x_{23}x_{24})x_{35} + (x_{12}^2x_{14}x_{23}x_{24} - x_{12}^2x_{13}x_{24}^2)x_{45}}, \\
 a_{45} &= -\frac{(x_{12}x_{13}x_{23} - x_{13}^3 + (x_{12}^3 - 2x_{12}^2)x_{23}^2)x_{35} - (x_{13}x_{14} - (x_{12}x_{13} + (x_{12}^3 - 2x_{12}^2)x_{23})x_{24})x_{45}}{(x_{12}^2x_{14}x_{23}^2 - x_{12}^2x_{13}x_{23}x_{24})x_{35} + (x_{12}^2x_{14}x_{23}x_{24} - x_{12}^2x_{13}x_{24}^2)x_{45}}
 \end{aligned}$$

Now assume  $x_{23} \neq \frac{-x_{24}x_{45}}{x_{35}}$  and  $x_{23} = \frac{x_{13}x_{24}}{x_{14}}$  and  $x_{45} \neq \frac{-x_{13}x_{35}}{x_{14}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{14}}{x_{12}x_{13}x_{24}}, d_4 = \frac{x_{14}x_{45}}{x_{12}x_{13}x_{24}x_{35} + x_{12}x_{14}x_{24}x_{45}}, d_5 = \frac{x_{14}}{x_{12}x_{13}x_{24}x_{35} + x_{12}x_{14}x_{24}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{24} = 0, a_{25} = \frac{2x_{12}^2x_{24}^2 - x_{12}x_{14}x_{24} + x_{14}^2}{x_{12}^3x_{24}^2}, \\
 a_{34} &= -\frac{x_{14}^2x_{45}}{x_{12}x_{13}^2x_{24}x_{35} + x_{12}x_{13}x_{14}x_{24}x_{45}}, a_{35} = 1, \\
 a_{45} &= -\frac{x_{12}^2x_{13}x_{24}^2 - x_{12}x_{14}x_{24} + x_{14}^2}{x_{12}^2x_{14}x_{24}^2}
 \end{aligned}$$

Now assume  $x_{23} \neq \frac{-x_{24}x_{45}}{x_{35}}$  and  $x_{23} = \frac{x_{13}x_{24}}{x_{14}}$  and  $x_{45} = \frac{-x_{13}x_{35}}{x_{14}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{14}}{x_{12}x_{13}x_{24}}, d_4 = 1, d_5 = -\frac{x_{14}}{x_{13}x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{24} = 0, a_{25} = \frac{1}{x_{12}}, \\
 a_{34} &= -\frac{x_{14}}{x_{13}}, a_{35} = 1, \\
 a_{45} &= -\frac{x_{13}}{x_{14}}
 \end{aligned}$$

Now assume  $x_{23} = \frac{-x_{24}x_{45}}{x_{35}}$  and  $x_{45} \neq \frac{-x_{13}x_{35}}{x_{14}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = -\frac{x_{35}}{x_{12}x_{24}x_{45}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{24}x_{45} + x_{13}x_{35}}{x_{12}^2x_{24}x_{45}}, a_{24} = -\frac{x_{13}x_{35} + x_{14}x_{45}}{x_{12}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = \frac{x_{13}x_{14}x_{35}^2 + (x_{14}^2 - (x_{12}^2 - x_{12})x_{24})x_{35}x_{45}}{x_{12}x_{13}x_{24}x_{35}x_{45} + x_{12}x_{14}x_{24}x_{45}^2}, \\ a_{45} &= -\frac{x_{13}^2x_{35}^2 + x_{13}x_{14}x_{35}x_{45} + (x_{12}^2 - x_{12})x_{24}x_{45}^2}{x_{12}x_{13}x_{24}x_{35}x_{45} + x_{12}x_{14}x_{24}x_{45}^2} \end{aligned}$$

Now assume  $x_{23} = \frac{-x_{24}x_{45}}{x_{35}}$  and  $x_{45} = \frac{-x_{13}x_{35}}{x_{14}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{14}}{x_{12}x_{13}x_{24}}, d_4 = 1, d_5 = -\frac{x_{14}}{x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{24} = 0, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= -\frac{x_{14}}{x_{13}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{13}}{x_{14}} \end{aligned}$$

First assume  $x_{23} \neq \frac{-x_{24}x_{45}}{x_{35}}$  and  $x_{23} \neq \frac{x_{13}x_{24}}{x_{14}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, d_5 = \frac{1}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{(x_{14}x_{23} - x_{13}x_{24})x_{45}}{x_{12}^2x_{23}^2x_{35} + x_{12}^2x_{23}x_{24}x_{45}}, a_{25} = 1, \\
a_{34} &= -\frac{x_{24}x_{45}}{x_{12}x_{23}^2x_{35} + x_{12}x_{23}x_{24}x_{45}}, \\
a_{35} &= \frac{x_{12}x_{15}x_{24} + (x_{12}x_{14}x_{23} - x_{13}x_{14} + (x_{12}^3 - 2x_{12}^2)x_{23}x_{24})x_{35} + (x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - 2x_{12}^2)x_{24}^2)x_{45}}{(x_{12}^2x_{14}x_{23}^2 - x_{12}^2x_{13}x_{23}x_{24})x_{35} + (x_{12}^2x_{14}x_{23}x_{24} - x_{12}^2x_{13}x_{24}^2)x_{45}}, \\
a_{45} &= -\frac{x_{12}x_{15}x_{23} + (x_{12}x_{13}x_{23} - x_{13}^2 + (x_{12}^3 - 2x_{12}^2)x_{23}^2)x_{35} - (x_{13}x_{14} - (x_{12}x_{13} + (x_{12}^3 - 2x_{12}^2)x_{23})x_{24})x_{45}}{(x_{12}^2x_{14}x_{23}^2 - x_{12}^2x_{13}x_{23}x_{24})x_{35} + (x_{12}^2x_{14}x_{23}x_{24} - x_{12}^2x_{13}x_{24}^2)x_{45}}
\end{aligned}$$

Now assume  $x_{23} \neq \frac{-x_{24}x_{45}}{x_{35}}$  and  $x_{23} = \frac{x_{13}x_{24}}{x_{14}}$  and  $x_{45} \neq \frac{-x_{13}x_{35}}{x_{14}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{14}}{x_{12}x_{13}x_{24}}, d_4 = \frac{x_{14}x_{45}}{x_{12}x_{13}x_{24}x_{35} + x_{12}x_{14}x_{24}x_{45}}, d_5 = \frac{x_{14}}{x_{12}x_{13}x_{24}x_{35} + x_{12}x_{14}x_{24}x_{45}}, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{24} = 0, \\
a_{25} &= -\frac{x_{12}x_{14}x_{15}x_{24} - (2x_{12}^2x_{13}x_{24}^2 - x_{12}x_{13}x_{14}x_{24} + x_{13}x_{14}^2)x_{35} - (2x_{12}^2x_{14}x_{24}^2 - x_{12}x_{14}^2x_{24} + x_{14}^3)x_{45}}{x_{12}^3x_{13}x_{24}^2x_{35} + x_{12}^3x_{14}x_{24}^2x_{45}}, \\
a_{34} &= -\frac{x_{14}^2x_{45}}{x_{12}x_{13}^2x_{24}x_{35} + x_{12}x_{13}x_{14}x_{24}x_{45}}, a_{35} = 1, \\
a_{45} &= -\frac{x_{12}^2x_{13}x_{24}^2 - x_{12}x_{14}x_{24} + x_{14}^2}{x_{12}^2x_{14}x_{24}^2}
\end{aligned}$$

Now assume  $x_{23} \neq \frac{-x_{24}x_{45}}{x_{35}}$  and  $x_{23} = \frac{x_{13}x_{24}}{x_{14}}$  and  $x_{45} = \frac{-x_{13}x_{35}}{x_{14}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{14}}{x_{12}x_{13}x_{24}}, d_4 = 1, d_5 = -\frac{x_{14}}{x_{13}x_{35}}, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{24} = 0, a_{25} = \frac{x_{14}x_{15} + x_{13}x_{35}}{x_{12}x_{13}x_{35}}, \\
a_{34} &= -\frac{x_{14}}{x_{13}}, a_{35} = 1, \\
a_{45} &= -\frac{x_{13}}{x_{14}}
\end{aligned}$$

Now assume  $x_{23} = \frac{-x_{24}x_{45}}{x_{35}}$  and  $x_{45} \neq \frac{-x_{13}x_{35}}{x_{14}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = -\frac{x_{35}}{x_{12}x_{24}x_{45}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{24}x_{45} + x_{13}x_{35}}{x_{12}^2x_{24}x_{45}}, a_{24} = -\frac{x_{13}x_{35} + x_{14}x_{45}}{x_{12}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = -\frac{x_{12}x_{15}x_{24}x_{35} - x_{13}x_{14}x_{35}^2 - (x_{14}^2 - (x_{12}^2 - x_{12})x_{24})x_{35}x_{45}}{x_{12}x_{13}x_{24}x_{35}x_{45} + x_{12}x_{14}x_{24}x_{45}^2}, \\ a_{45} &= -\frac{x_{13}^2x_{35}^2 + (x_{12}^2 - x_{12})x_{24}x_{45}^2 + (x_{12}x_{15}x_{24} + x_{13}x_{14}x_{35})x_{45}}{x_{12}x_{13}x_{24}x_{35}x_{45} + x_{12}x_{14}x_{24}x_{45}^2} \end{aligned}$$

Now assume  $x_{23} = \frac{-x_{24}x_{45}}{x_{35}}$  and  $x_{45} = \frac{-x_{13}x_{35}}{x_{14}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{14}}{x_{12}x_{13}x_{24}}, d_4 = 1, d_5 = -\frac{x_{14}}{x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{24} = 0, a_{25} = \frac{x_{14}x_{15} + x_{13}x_{35}}{x_{12}x_{13}x_{35}}, \\ a_{34} &= -\frac{x_{14}}{x_{13}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{13}}{x_{14}} \end{aligned}$$

First assume  $x_{23} \neq \frac{-x_{24}x_{45}}{x_{35}}$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, d_5 = \frac{1}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = \frac{2}{x_{12}}, \\ a_{34} &= -\frac{x_{24}x_{45}}{x_{12}x_{23}^2x_{35} + x_{12}x_{23}x_{24}x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{(x_{12}x_{23} - 1)x_{24}x_{45} + x_{25} + (x_{12}x_{23}^2 - x_{23})x_{35}}{x_{12}x_{23}x_{24}x_{35} + x_{12}x_{24}^2x_{45}} \end{aligned}$$

Now assume  $x_{23} = \frac{-x_{24}x_{45}}{x_{35}}$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = -\frac{x_{35}}{x_{12}x_{24}x_{45}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{x_{24}x_{45}^2 - x_{25}x_{35}}{x_{24}x_{35}x_{45}} \end{aligned}$$

First assume  $x_{23} \neq \frac{-x_{24}x_{45}}{x_{35}}$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, d_5 = \frac{1}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = \frac{2x_{12}x_{23}x_{35} + 2x_{12}x_{24}x_{45} - x_{15}}{x_{12}^2x_{23}x_{35} + x_{12}^2x_{24}x_{45}}, \\ a_{34} &= -\frac{x_{24}x_{45}}{x_{12}x_{23}^2x_{35} + x_{12}x_{23}x_{24}x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{(x_{12}x_{23} - 1)x_{24}x_{45} + x_{25} + (x_{12}x_{23}^2 - x_{23})x_{35}}{x_{12}x_{23}x_{24}x_{35} + x_{12}x_{24}^2x_{45}} \end{aligned}$$

Now assume  $x_{23} = \frac{-x_{24}x_{45}}{x_{35}}$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = -\frac{x_{35}}{x_{12}x_{24}x_{45}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = 0, a_{25} = -\frac{x_{15} - x_{45}}{x_{12}x_{45}}, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{x_{24}x_{45}^2 - x_{25}x_{35}}{x_{24}x_{35}x_{45}} \end{aligned}$$

First assume  $x_{23} \neq \frac{-x_{24}x_{45}}{x_{35}}$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, d_5 = \frac{1}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}x_{45}}{x_{12}^2x_{23}x_{35} + x_{12}^2x_{24}x_{45}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}x_{45}}{x_{12}x_{23}^2x_{35} + x_{12}x_{23}x_{24}x_{45}}, \\ a_{35} &= -\frac{x_{12}x_{14}x_{25} - (x_{12}x_{14}x_{23} + (x_{12}^3 - 2x_{12}^2)x_{23}x_{24})x_{35} - (x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - 2x_{12}^2)x_{24}^2)x_{45}}{x_{12}^2x_{14}x_{23}^2x_{35} + x_{12}^2x_{14}x_{23}x_{24}x_{45}}, \\ a_{45} &= -\frac{x_{12} - 2}{x_{14}} \end{aligned}$$

Now assume  $x_{23} = \frac{-x_{24}x_{45}}{x_{35}}$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = -\frac{x_{35}}{x_{12}x_{24}x_{45}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = \frac{x_{12}x_{14}x_{25}x_{35} + (x_{14}^2 - (x_{12}^2 - x_{12})x_{24})x_{35}x_{45}}{x_{12}x_{14}x_{24}x_{45}^2}, \\ a_{45} &= -\frac{x_{12} - 1}{x_{14}} \end{aligned}$$

First assume  $x_{23} \neq \frac{-x_{24}x_{45}}{x_{35}}$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, d_5 = \frac{1}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}x_{45}}{x_{12}^2x_{23}x_{35} + x_{12}^2x_{24}x_{45}}, a_{25} = 1, \\
a_{34} &= -\frac{x_{24}x_{45}}{x_{12}x_{23}^2x_{35} + x_{12}x_{23}x_{24}x_{45}}, \\
a_{35} &= \frac{x_{12}x_{15}x_{24} - x_{12}x_{14}x_{25} + (x_{12}x_{14}x_{23} + (x_{12}^3 - 2x_{12}^2)x_{23}x_{24})x_{35} + (x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - 2x_{12}^2)x_{24}^2)x_{45}}{x_{12}^2x_{14}x_{23}^2x_{35} + x_{12}^2x_{14}x_{23}x_{24}x_{45}}, \\
a_{45} &= -\frac{(x_{12}^2 - 2x_{12})x_{23}x_{35} + (x_{12}^2 - 2x_{12})x_{24}x_{45} + x_{15}}{x_{12}x_{14}x_{23}x_{35} + x_{12}x_{14}x_{24}x_{45}}
\end{aligned}$$

Now assume  $x_{23} = \frac{-x_{24}x_{45}}{x_{35}}$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = -\frac{x_{35}}{x_{12}x_{24}x_{45}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= \frac{1}{x_{12}}, a_{24} = -\frac{x_{14}}{x_{12}}, a_{25} = 1, \\
a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = \frac{(x_{14}^2 - (x_{12}^2 - x_{12})x_{24})x_{35}x_{45} - (x_{12}x_{15}x_{24} - x_{12}x_{14}x_{25})x_{35}}{x_{12}x_{14}x_{24}x_{45}^2}, \\
a_{45} &= -\frac{x_{15} + (x_{12} - 1)x_{45}}{x_{14}x_{45}}
\end{aligned}$$

First assume  $x_{23} \neq \frac{-x_{24}x_{45}}{x_{35}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, d_5 = \frac{1}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{13}x_{24}x_{45}}{x_{12}^2x_{23}^2x_{35} + x_{12}^2x_{23}x_{24}x_{45}}, a_{25} = 1, \\
a_{34} &= -\frac{x_{24}x_{45}}{x_{12}x_{23}^2x_{35} + x_{12}x_{23}x_{24}x_{45}}, a_{35} = -\frac{x_{12} - 2}{x_{13}}, \\
a_{45} &= -\frac{x_{12}x_{13}x_{25} - (x_{12}x_{13} + (x_{12}^3 - 2x_{12}^2)x_{23})x_{24}x_{45} - (x_{12}x_{13}x_{23} - x_{13}^2 + (x_{12}^3 - 2x_{12}^2)x_{23}^2)x_{35}}{x_{12}^2x_{13}x_{23}x_{24}x_{35} + x_{12}^2x_{13}x_{24}^2x_{45}}
\end{aligned}$$

Now assume  $x_{23} = \frac{-x_{24}x_{45}}{x_{35}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = -\frac{x_{35}}{x_{12}x_{24}x_{45}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{24}x_{45} + x_{13}x_{35}}{x_{12}^2x_{24}x_{45}}, a_{24} = -\frac{x_{13}x_{35}}{x_{12}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= -\frac{x_{12}x_{13}x_{25}x_{35} + x_{13}^2x_{35}^2 + (x_{12}^2 - x_{12})x_{24}x_{45}^2}{x_{12}x_{13}x_{24}x_{35}x_{45}} \end{aligned}$$

First assume  $x_{23} \neq \frac{-x_{24}x_{45}}{x_{35}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, d_5 = \frac{1}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = \frac{x_{13}x_{24}x_{45}}{x_{12}^2x_{23}x_{35} + x_{12}^2x_{23}x_{24}x_{45}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}x_{45}}{x_{12}x_{23}^2x_{35} + x_{12}x_{23}x_{24}x_{45}}, a_{35} = -\frac{(x_{12}^2 - 2x_{12})x_{23}x_{35} + (x_{12}^2 - 2x_{12})x_{24}x_{45} + x_{15}}{x_{12}x_{13}x_{23}x_{35} + x_{12}x_{13}x_{24}x_{45}}, \\ a_{45} &= \frac{x_{12}x_{15}x_{23} - x_{12}x_{13}x_{25} + (x_{12}x_{13} + (x_{12}^3 - 2x_{12}^2)x_{23})x_{24}x_{45} + (x_{12}x_{13}x_{23} - x_{13}^2 + (x_{12}^3 - 2x_{12}^2)x_{23}^2)x_{35}}{x_{12}^2x_{13}x_{23}x_{24}x_{35} + x_{12}^2x_{13}x_{24}x_{45}} \end{aligned}$$

Now assume  $x_{23} = \frac{-x_{24}x_{45}}{x_{35}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = -\frac{x_{35}}{x_{12}x_{24}x_{45}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{24}x_{45} + x_{13}x_{35}}{x_{12}^2x_{24}x_{45}}, a_{24} = -\frac{x_{13}x_{35}}{x_{12}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = -\frac{x_{15} + (x_{12} - 1)x_{45}}{x_{13}x_{45}}, \\ a_{45} &= -\frac{x_{12}x_{13}x_{25}x_{35} + x_{13}^2x_{35}^2 + x_{12}x_{15}x_{24}x_{45} + (x_{12}^2 - x_{12})x_{24}x_{45}^2}{x_{12}x_{13}x_{24}x_{35}x_{45}} \end{aligned}$$

First assume  $x_{23} \neq \frac{-x_{24}x_{45}}{x_{35}}$  and  $x_{23} \neq \frac{x_{13}x_{24}}{x_{14}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, d_5 = \frac{1}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{(x_{14}x_{23} - x_{13}x_{24})x_{45}}{x_{12}^2x_{23}x_{35} + x_{12}^2x_{23}x_{24}x_{45}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}x_{45}}{x_{12}x_{23}x_{35} + x_{12}x_{23}x_{24}x_{45}}, \\ a_{35} &= -\frac{x_{12}x_{14}x_{25} - (x_{12}x_{14}x_{23} - x_{13}x_{14} + (x_{12}^3 - 2x_{12}^2)x_{23}x_{24})x_{35} - (x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - 2x_{12}^2)x_{24}^2)x_{45}}{(x_{12}^2x_{14}x_{23}^2 - x_{12}^2x_{13}x_{23}x_{24})x_{35} + (x_{12}^2x_{14}x_{23}x_{24} - x_{12}^2x_{13}x_{24}^2)x_{45}}, \\ a_{45} &= \frac{x_{12}x_{13}x_{25} - (x_{12}x_{13}x_{23} - x_{13}^2 + (x_{12}^3 - 2x_{12}^2)x_{23}^2)x_{35} + (x_{13}x_{14} - (x_{12}x_{13} + (x_{12}^3 - 2x_{12}^2)x_{23})x_{24})x_{45}}{(x_{12}^2x_{14}x_{23}^2 - x_{12}^2x_{13}x_{23}x_{24})x_{35} + (x_{12}^2x_{14}x_{23}x_{24} - x_{12}^2x_{13}x_{24}^2)x_{45}} \end{aligned}$$

Now assume  $x_{23} \neq \frac{-x_{24}x_{45}}{x_{35}}$  and  $x_{23} = \frac{x_{13}x_{24}}{x_{14}}$  and  $x_{35} \neq \frac{-x_{14}x_{45}}{x_{13}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{14}}{x_{12}x_{13}x_{24}}, d_4 = \frac{x_{14}x_{45}}{x_{12}x_{13}x_{24}x_{35} + x_{12}x_{14}x_{24}x_{45}}, d_5 = \frac{x_{14}}{x_{12}x_{13}x_{24}x_{35} + x_{12}x_{14}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{24} = 0, \\ a_{25} &= \frac{x_{12}x_{14}^2x_{25} + (2x_{12}^2x_{13}x_{24}^2 - x_{12}x_{13}x_{14}x_{24} + x_{13}x_{14}^2)x_{35} + (2x_{12}^2x_{14}x_{24}^2 - x_{12}x_{14}^2x_{24} + x_{14}^3)x_{45}}{x_{12}^3x_{13}x_{24}^2x_{35} + x_{12}^3x_{14}x_{24}^2x_{45}}, \\ a_{34} &= -\frac{x_{14}^2x_{45}}{x_{12}x_{13}x_{24}x_{35} + x_{12}x_{13}x_{14}x_{24}x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{12}x_{14}^2x_{25} + (x_{12}^2x_{13}x_{24}^2 - x_{12}x_{13}x_{14}x_{24} + x_{13}x_{14}^2)x_{35} + (x_{12}^2x_{13}x_{14}x_{24}^2 - x_{12}x_{14}^2x_{24} + x_{14}^3)x_{45}}{x_{12}^2x_{13}x_{14}x_{24}^2x_{35} + x_{12}^2x_{14}^2x_{24}^2x_{45}} \end{aligned}$$

Now assume  $x_{23} \neq \frac{-x_{24}x_{45}}{x_{35}}$  and  $x_{23} = \frac{x_{13}x_{24}}{x_{14}}$  and  $x_{35} = \frac{-x_{14}x_{45}}{x_{13}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{14}}{x_{12}x_{13}x_{24}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{24} = 0, a_{25} = \frac{x_{14}x_{25} + x_{24}x_{45}}{x_{12}x_{24}x_{45}}, \\ a_{34} &= -\frac{x_{14}}{x_{13}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{13}x_{24}x_{45} + x_{14}x_{25}}{x_{14}x_{24}x_{45}} \end{aligned}$$

Now assume  $x_{23} = \frac{-x_{24}x_{45}}{x_{35}}$  and  $x_{45} \neq \frac{-x_{13}x_{35}}{x_{14}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = -\frac{x_{35}}{x_{12}x_{24}x_{45}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{24}x_{45} + x_{13}x_{35}}{x_{12}^2x_{24}x_{45}}, a_{24} = -\frac{x_{13}x_{35} + x_{14}x_{45}}{x_{12}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = \frac{x_{12}x_{14}x_{25}x_{35} + x_{13}x_{14}x_{35}^2 + (x_{14}^2 - (x_{12}^2 - x_{12})x_{24})x_{35}x_{45}}{x_{12}x_{13}x_{24}x_{35}x_{45} + x_{12}x_{14}x_{24}x_{45}^2}, \\ a_{45} &= -\frac{x_{12}x_{13}x_{25}x_{35} + x_{13}^2x_{35}^2 + x_{13}x_{14}x_{35}x_{45} + (x_{12}^2 - x_{12})x_{24}x_{45}^2}{x_{12}x_{13}x_{24}x_{35}x_{45} + x_{12}x_{14}x_{24}x_{45}^2} \end{aligned}$$

Now assume  $x_{23} = \frac{-x_{24}x_{45}}{x_{35}}$  and  $x_{45} = \frac{-x_{13}x_{35}}{x_{14}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{14}}{x_{12}x_{13}x_{24}}, d_4 = 1, d_5 = -\frac{x_{14}}{x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{24} = 0, a_{25} = -\frac{x_{14}^2x_{25} - x_{13}x_{24}x_{35}}{x_{12}x_{13}x_{24}x_{35}}, \\ a_{34} &= -\frac{x_{14}}{x_{13}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{13}x_{24}x_{35} - x_{14}^2x_{25}}{x_{13}x_{14}x_{24}x_{35}} \end{aligned}$$

First assume  $x_{23} \neq \frac{-x_{24}x_{45}}{x_{35}}$  and  $x_{23} \neq \frac{x_{13}x_{24}}{x_{14}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{x_{45}}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, d_5 = \frac{1}{x_{12}x_{23}x_{35} + x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{(x_{14}x_{23} - x_{13}x_{24})x_{45}}{x_{12}^2x_{23}x_{35} + x_{12}^2x_{23}x_{24}x_{45}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{24}x_{45}}{x_{12}x_{23}^2x_{35} + x_{12}x_{23}x_{24}x_{45}}, \\ a_{35} &= \frac{x_{12}x_{15}x_{24} - x_{12}x_{14}x_{25} + (x_{12}x_{14}x_{23} - x_{13}x_{14} + (x_{12}^3 - 2x_{12}^2)x_{23}x_{24})x_{35} + (x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - 2x_{12}^2)x_{24}^2)x_{45}}{(x_{12}^2x_{14}x_{23}^2 - x_{12}^2x_{13}x_{23}x_{24})x_{35} + (x_{12}^2x_{14}x_{23}x_{24} - x_{12}^2x_{13}x_{24}^2)x_{45}}, \\ a_{45} &= -\frac{x_{12}x_{15}x_{23} - x_{12}x_{13}x_{25} + (x_{12}x_{13}x_{23} - x_{13}^2 + (x_{12}^3 - 2x_{12}^2)x_{23}^2)x_{35} - (x_{13}x_{14} - (x_{12}x_{13} + (x_{12}^3 - 2x_{12}^2)x_{23})x_{24})x_{45}}{(x_{12}^2x_{14}x_{23}^2 - x_{12}^2x_{13}x_{23}x_{24})x_{35} + (x_{12}^2x_{14}x_{23}x_{24} - x_{12}^2x_{13}x_{24}^2)x_{45}} \end{aligned}$$

Now assume  $x_{23} \neq \frac{-x_{24}x_{45}}{x_{35}}$  and  $x_{23} = \frac{x_{13}x_{24}}{x_{14}}$  and  $x_{35} \neq \frac{-x_{14}x_{45}}{x_{13}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{14}}{x_{12}x_{13}x_{24}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{24} = 0, a_{25} = -\frac{x_{15}x_{24} - x_{14}x_{25} - x_{24}x_{45}}{x_{12}x_{24}x_{45}}, \\ a_{34} &= -\frac{x_{14}}{x_{13}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{13}x_{24}x_{45} + x_{14}x_{25}}{x_{14}x_{24}x_{45}} \end{aligned}$$

Now assume  $x_{23} \neq \frac{-x_{24}x_{45}}{x_{35}}$  and  $x_{23} = \frac{x_{13}x_{24}}{x_{14}}$  and  $x_{35} = \frac{-x_{14}x_{45}}{x_{13}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{14}}{x_{12}x_{13}x_{24}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{24} = 0, a_{25} = -\frac{x_{15}x_{24} - x_{14}x_{25} - x_{24}x_{45}}{x_{12}x_{24}x_{45}}, \\
a_{34} &= -\frac{x_{14}}{x_{13}}, a_{35} = 1, \\
a_{45} &= -\frac{x_{13}x_{24}x_{45} + x_{14}x_{25}}{x_{14}x_{24}x_{45}}
\end{aligned}$$

Now assume  $x_{23} = \frac{-x_{24}x_{45}}{x_{35}}$  and  $x_{45} \neq \frac{-x_{13}x_{35}}{x_{14}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = -\frac{x_{35}}{x_{12}x_{24}x_{45}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= \frac{x_{12}x_{24}x_{45} + x_{13}x_{35}}{x_{12}^2x_{24}x_{45}}, a_{24} = -\frac{x_{13}x_{35} + x_{14}x_{45}}{x_{12}x_{45}}, a_{25} = 1, \\
a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = \frac{x_{13}x_{14}x_{35}^2 + (x_{14}^2 - (x_{12}^2 - x_{12})x_{24})x_{35}x_{45} - (x_{12}x_{15}x_{24} - x_{12}x_{14}x_{25})x_{35}}{x_{12}x_{13}x_{24}x_{35}x_{45} + x_{12}x_{14}x_{24}x_{45}^2}, \\
a_{45} &= -\frac{x_{12}x_{13}x_{25}x_{35} + x_{13}^2x_{35}^2 + (x_{12}^2 - x_{12})x_{24}x_{45}^2 + (x_{12}x_{15}x_{24} + x_{13}x_{14}x_{35})x_{45}}{x_{12}x_{13}x_{24}x_{35}x_{45} + x_{12}x_{14}x_{24}x_{45}^2}
\end{aligned}$$

Now assume  $x_{23} = \frac{-x_{24}x_{45}}{x_{35}}$  and  $x_{45} = \frac{-x_{13}x_{35}}{x_{14}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{14}}{x_{12}x_{13}x_{24}}, d_4 = 1, d_5 = -\frac{x_{14}}{x_{13}x_{35}}, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{24} = 0, a_{25} = \frac{x_{14}x_{15}x_{24} - x_{14}^2x_{25} + x_{13}x_{24}x_{35}}{x_{12}x_{13}x_{24}x_{35}}, \\
a_{34} &= -\frac{x_{14}}{x_{13}}, a_{35} = 1, \\
a_{45} &= -\frac{x_{13}^2x_{24}x_{35} - x_{14}^2x_{25}}{x_{13}x_{14}x_{24}x_{35}}
\end{aligned}$$

APPENDIX K. SUBCASES OF  $Y_{10}$ 

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= 0, a_{35} = \frac{1}{x_{12}x_{23}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{x_{12}x_{23}x_{34}x_{45} - x_{15}}{x_{12}^2x_{23}x_{34}x_{45}}, \\ a_{34} &= 0, a_{35} = \frac{1}{x_{12}x_{23}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= 0, a_{35} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}^2x_{34}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = \frac{x_{12}x_{23}x_{34}x_{45} - x_{15}}{x_{12}^2x_{23}x_{34}x_{45}}, \\ a_{34} &= 0, a_{35} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}^2x_{34}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2}{x_{12}^4x_{23}^3}, \\ a_{34} &= 0, a_{35} = \frac{1}{x_{12}x_{23}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = -\frac{x_{12}^2x_{15}x_{23}^2 - (x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2)x_{34}x_{45}}{x_{12}^4x_{23}^3x_{34}x_{45}}, \\ a_{34} &= 0, a_{35} = \frac{1}{x_{12}x_{23}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}^2x_{23}^2x_{34} - x_{12}x_{14}x_{23}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = \frac{x_{12}x_{13}x_{14}x_{23} + (x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2)x_{34}}{x_{12}^4x_{23}^3x_{34}}, \\ a_{34} &= 0, a_{35} = \frac{x_{12}^2x_{23}^2x_{34} - x_{12}x_{14}x_{23}}{x_{12}^3x_{23}^3x_{34}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}^2x_{23}^2x_{34} - x_{12}x_{14}x_{23}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = -\frac{x_{12}^2x_{15}x_{23}^2 - (x_{12}x_{13}x_{14}x_{23} + (x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2)x_{34})x_{45}}{x_{12}^4x_{23}^3x_{34}x_{45}}, \\ a_{34} &= 0, a_{35} = \frac{x_{12}^2x_{23}^2x_{34} - x_{12}x_{14}x_{23}}{x_{12}^3x_{23}^3x_{34}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= 0, a_{35} = \frac{x_{23}x_{34}x_{45} - x_{25}}{x_{12}x_{23}^2x_{34}x_{45}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{x_{12}x_{23}x_{34}x_{45} - x_{15}}{x_{12}^2x_{23}x_{34}x_{45}}, \\ a_{34} &= 0, a_{35} = \frac{x_{23}x_{34}x_{45} - x_{25}}{x_{12}x_{23}^2x_{34}x_{45}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= 0, a_{35} = -\frac{x_{12}x_{25} - (x_{12}x_{23}x_{34} - x_{14})x_{45}}{x_{12}^2x_{23}^2x_{34}x_{45}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = \frac{x_{12}x_{23}x_{34}x_{45} - x_{15}}{x_{12}^2x_{23}x_{34}x_{45}}, \\ a_{34} &= 0, a_{35} = -\frac{x_{12}x_{25} - (x_{12}x_{23}x_{34} - x_{14})x_{45}}{x_{12}^2x_{23}^2x_{34}x_{45}}, \\ a_{45} &= 0 \end{aligned}$$



$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{x_{12}^2x_{13}x_{23}x_{25} + (x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2)x_{34}x_{45}}{x_{12}^4x_{23}^3x_{34}x_{45}}, \\ a_{34} &= 0, a_{35} = \frac{x_{12}^2x_{23}^2x_{34}x_{45} - x_{12}^2x_{23}x_{25}}{x_{12}^3x_{23}^3x_{34}x_{45}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = -\frac{x_{12}^2x_{15}x_{23}^2 - x_{12}^2x_{13}x_{23}x_{25} - (x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2)x_{34}x_{45}}{x_{12}^4x_{23}^3x_{34}x_{45}}, \\ a_{34} &= 0, a_{35} = \frac{x_{12}^2x_{23}^2x_{34}x_{45} - x_{12}^2x_{23}x_{25}}{x_{12}^3x_{23}^3x_{34}x_{45}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}^2x_{23}^2x_{34} - x_{12}x_{14}x_{23}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = \frac{x_{12}^2x_{13}x_{23}x_{25} + (x_{12}x_{13}x_{14}x_{23} + (x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2)x_{34})x_{45}}{x_{12}^4x_{23}^3x_{34}x_{45}}, \\ a_{34} &= 0, a_{35} = -\frac{x_{12}^2x_{23}x_{25} - (x_{12}^2x_{23}^2x_{34} - x_{12}x_{14}x_{23})x_{45}}{x_{12}^3x_{23}^3x_{34}x_{45}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}^2x_{23}^2x_{34} - x_{12}x_{14}x_{23}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = -\frac{x_{12}^2x_{15}x_{23}^2 - x_{12}^2x_{13}x_{23}x_{25} - (x_{12}x_{13}x_{14}x_{23} + (x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2)x_{34})x_{45}}{x_{12}^4x_{23}^3x_{34}x_{45}}, \\ a_{34} &= 0, a_{35} = -\frac{x_{12}^2x_{23}x_{25} - (x_{12}^2x_{23}^2x_{34} - x_{12}x_{14}x_{23})x_{45}}{x_{12}^3x_{23}^3x_{34}x_{45}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = \frac{x_{23}^2x_{34}^2 + x_{24}^2}{x_{12}x_{23}^3x_{34}^2}, \\ a_{45} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{x_{12}x_{23}x_{34}x_{45} - x_{15}}{x_{12}^2x_{23}x_{34}x_{45}}, \\ a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = \frac{x_{23}^2x_{34}^2 + x_{24}^2}{x_{12}x_{23}^3x_{34}^2}, \\ a_{45} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = \frac{x_{12}x_{23}^2x_{34}^2 + x_{14}x_{24}}{x_{12}^2x_{23}^2x_{34}^2}, \\ a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = \frac{x_{12}x_{23}^2x_{34}^2 + x_{12}x_{24}^2 - x_{14}x_{23}x_{34}}{x_{12}^2x_{23}^3x_{34}^2}, \\ a_{45} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = -\frac{x_{15}x_{23}x_{34} - (x_{12}x_{23}^2x_{34}^2 + x_{14}x_{24})x_{45}}{x_{12}^2x_{23}^2x_{34}^2x_{45}}, \\ a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = \frac{x_{12}x_{23}^2x_{34}^2 + x_{12}x_{24}^2 - x_{14}x_{23}x_{34}}{x_{12}^2x_{23}^3x_{34}^2}, \\ a_{45} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}^2x_{23}^2x_{34} + x_{12}x_{13}x_{24}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = -\frac{x_{12}^2x_{13}x_{24}^2 + x_{12}x_{13}^2x_{24}x_{34} - (x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2)x_{34}^2}{x_{12}^4x_{23}^3x_{34}^2}, \\ a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = \frac{x_{12}^2x_{23}^2x_{34}^2 + x_{12}^2x_{24}^2 + x_{12}x_{13}x_{24}x_{34}}{x_{12}^3x_{23}^3x_{34}^2}, \\ a_{45} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}^2x_{23}^2x_{34} + x_{12}x_{13}x_{24}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = -\frac{x_{12}^2x_{15}x_{23}^2x_{34} + (x_{12}^2x_{13}x_{24}^2 + x_{12}x_{13}^2x_{24}x_{34} - (x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2)x_{34}^2)x_{45}}{x_{12}^4x_{23}^3x_{34}^2x_{45}}, \\ a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = \frac{x_{12}^2x_{23}^2x_{34}^2 + x_{12}^2x_{24}^2 + x_{12}x_{13}x_{24}x_{34}}{x_{12}^3x_{23}^3x_{34}^2}, \\ a_{45} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}^2x_{23}^2x_{34} - x_{12}x_{14}x_{23} + x_{12}x_{13}x_{24}}{x_{12}^3x_{23}^2x_{34}}, \\ a_{25} &= \frac{x_{12}^2x_{14}x_{23}x_{24} - x_{12}^2x_{13}x_{24}^2 + (x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2)x_{34}^2 + (x_{12}x_{13}x_{14}x_{23} - x_{12}x_{13}^2x_{24})x_{34}}{x_{12}^4x_{23}^3x_{34}^2}, \\ a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = \frac{x_{12}^2x_{23}^2x_{34}^2 + x_{12}^2x_{24}^2 - (x_{12}x_{14}x_{23} - x_{12}x_{13}x_{24})x_{34}}{x_{12}^3x_{23}^3x_{34}^2}, \\ a_{45} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\
 a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{x_{12}^2x_{23}^2x_{34} - x_{12}x_{14}x_{23} + x_{12}x_{13}x_{24}}{x_{12}^3x_{23}^2x_{34}}, \\
 a_{25} &= -\frac{x_{12}^2x_{15}x_{23}^2x_{34} - (x_{12}^2x_{14}x_{23}x_{24} - x_{12}^2x_{13}x_{24}^2 + (x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2)x_{34}^2 + (x_{12}x_{13}x_{14}x_{23} - x_{12}x_{13}^2x_{24})x_{34})x_{45}}{x_{12}^4x_{23}^3x_{34}^2x_{45}}, \\
 a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = \frac{x_{12}^2x_{23}^2x_{34}^2 + x_{12}^2x_{24}^2 - (x_{12}x_{14}x_{23} - x_{12}x_{13}x_{24})x_{34}}{x_{12}^3x_{23}^3x_{34}^2}, \\
 a_{45} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}^2}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\
 a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{1}{x_{12}}, \\
 a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = -\frac{x_{23}x_{25}x_{34} - (x_{23}^2x_{34}^2 + x_{24}^2)x_{45}}{x_{12}x_{23}^3x_{34}^2x_{45}}, \\
 a_{45} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}^2}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\
 a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{x_{12}x_{23}x_{34}x_{45} - x_{15}}{x_{12}^2x_{23}x_{34}x_{45}}, \\
 a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = -\frac{x_{23}x_{25}x_{34} - (x_{23}^2x_{34}^2 + x_{24}^2)x_{45}}{x_{12}x_{23}^3x_{34}^2x_{45}}, \\
 a_{45} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}^2}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = \frac{x_{12}x_{23}^2x_{34}^2 + x_{14}x_{24}}{x_{12}^2x_{23}^2x_{34}^2}, \\ a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = -\frac{x_{12}x_{23}x_{25}x_{34} - (x_{12}x_{23}^2x_{34}^2 + x_{12}x_{24}^2 - x_{14}x_{23}x_{34})x_{45}}{x_{12}^2x_{23}^3x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = -\frac{x_{15}x_{23}x_{34} - (x_{12}x_{23}^2x_{34}^2 + x_{14}x_{24})x_{45}}{x_{12}^2x_{23}^2x_{34}^2x_{45}}, \\ a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = -\frac{x_{12}x_{23}x_{25}x_{34} - (x_{12}x_{23}^2x_{34}^2 + x_{12}x_{24}^2 - x_{14}x_{23}x_{34})x_{45}}{x_{12}^2x_{23}^3x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}^2x_{23}^2x_{34} + x_{12}x_{13}x_{24}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = \frac{x_{12}^2x_{13}x_{23}x_{25}x_{34} - (x_{12}^2x_{13}x_{24}^2 + x_{12}x_{13}^2x_{24}x_{34} - (x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2)x_{34}^2)x_{45}}{x_{12}^4x_{23}^3x_{34}^2x_{45}}, \\ a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = -\frac{x_{12}^2x_{23}x_{25}x_{34} - (x_{12}^2x_{23}^2x_{34}^2 + x_{12}^2x_{24}^2 + x_{12}x_{13}x_{24}x_{34})x_{45}}{x_{12}^3x_{23}^3x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\
 a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{x_{12}^2x_{23}^2x_{34} + x_{12}x_{13}x_{24}}{x_{12}^3x_{23}^2x_{34}}, \\
 a_{25} &= -\frac{(x_{12}^2x_{15}x_{23}^2 - x_{12}^2x_{13}x_{23}x_{25})x_{34} + (x_{12}^2x_{13}x_{24}^2 + x_{12}x_{13}^2x_{24}x_{34} - (x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2)x_{34}^2)x_{45}}{x_{12}^4x_{23}^3x_{34}^2x_{45}}, \\
 a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = -\frac{x_{12}^2x_{23}x_{25}x_{34} - (x_{12}^2x_{23}^2x_{34}^2 + x_{12}^2x_{24}^2 + x_{12}x_{13}x_{24}x_{34})x_{45}}{x_{12}^3x_{23}^3x_{34}^2x_{45}}, \\
 a_{45} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}^2}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\
 a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{x_{12}^2x_{23}^2x_{34} - x_{12}x_{14}x_{23} + x_{12}x_{13}x_{24}}{x_{12}^3x_{23}^2x_{34}}, \\
 a_{25} &= \frac{x_{12}^2x_{13}x_{23}x_{25}x_{34} + (x_{12}^2x_{14}x_{23}x_{24} - x_{12}^2x_{13}x_{24}^2 + (x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2)x_{34}^2 + (x_{12}x_{13}x_{14}x_{23} - x_{12}x_{13}^2x_{24})x_{34})x_{45}}{x_{12}^4x_{23}^3x_{34}^2x_{45}}, \\
 a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = -\frac{x_{12}^2x_{23}x_{25}x_{34} - (x_{12}^2x_{23}^2x_{34}^2 + x_{12}^2x_{24}^2 - (x_{12}x_{14}x_{23} - x_{12}x_{13}x_{24})x_{34})x_{45}}{x_{12}^3x_{23}^3x_{34}^2x_{45}}, \\
 a_{45} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}^2}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\
 a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{x_{12}^2x_{23}^2x_{34} - x_{12}x_{14}x_{23} + x_{12}x_{13}x_{24}}{x_{12}^3x_{23}^2x_{34}}, \\
 a_{25} &= -\frac{(x_{12}^2x_{15}x_{23}^2 - x_{12}^2x_{13}x_{23}x_{25})x_{34} - (x_{12}^2x_{14}x_{23}x_{24} - x_{12}^2x_{13}x_{24}^2 + (x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2)x_{34}^2 + (x_{12}x_{13}x_{14}x_{23} - x_{12}x_{13}^2x_{24})x_{34})x_{45}}{x_{12}^4x_{23}^3x_{34}^2x_{45}}, \\
 a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = -\frac{x_{12}^2x_{23}x_{25}x_{34} - (x_{12}^2x_{23}^2x_{34}^2 + x_{12}^2x_{24}^2 - (x_{12}x_{14}x_{23} - x_{12}x_{13}x_{24})x_{34})x_{45}}{x_{12}^3x_{23}^3x_{34}^2x_{45}}, \\
 a_{45} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}^2}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\
 a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{1}{x_{12}}, \\
 a_{34} &= 0, a_{35} = \frac{1}{x_{12}x_{23}}, \\
 a_{45} &= -\frac{x_{35}}{x_{12}x_{23}x_{34}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\
 a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{x_{12}x_{23}x_{34}x_{45} - x_{15}}{x_{12}^2x_{23}x_{34}x_{45}}, \\
 a_{34} &= 0, a_{35} = \frac{1}{x_{12}x_{23}}, \\
 a_{45} &= -\frac{x_{35}}{x_{12}x_{23}x_{34}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = \frac{x_{12}x_{23}x_{34}^2x_{45} + x_{14}x_{35}}{x_{12}^2x_{23}x_{34}^2x_{45}}, \\ a_{34} &= 0, a_{35} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}^2x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{12}x_{23}x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = \frac{x_{12}x_{23}x_{34}^2x_{45} - x_{15}x_{34} + x_{14}x_{35}}{x_{12}^2x_{23}x_{34}^2x_{45}}, \\ a_{34} &= 0, a_{35} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}^2x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{12}x_{23}x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2}{x_{12}^4x_{23}^3}, \\ a_{34} &= 0, a_{35} = \frac{1}{x_{12}x_{23}}, \\ a_{45} &= -\frac{x_{35}}{x_{12}x_{23}x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = -\frac{x_{12}^2x_{15}x_{23}^2 - (x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2)x_{34}x_{45}}{x_{12}^4x_{23}^3x_{34}x_{45}}, \\ a_{34} &= 0, a_{35} = \frac{1}{x_{12}x_{23}}, \\ a_{45} &= -\frac{x_{35}}{x_{12}x_{23}x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}^2x_{23}^2x_{34} - x_{12}x_{14}x_{23}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = \frac{x_{12}^2x_{14}x_{23}^2x_{35} + (x_{12}x_{13}x_{14}x_{23}x_{34} + (x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2)x_{34}^2)x_{45}}{x_{12}^4x_{23}^3x_{34}^2x_{45}}, \\ a_{34} &= 0, a_{35} = \frac{x_{12}^2x_{23}^2x_{34} - x_{12}x_{14}x_{23}}{x_{12}^3x_{23}^3x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{12}x_{23}x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}^2x_{23}^2x_{34} - x_{12}x_{14}x_{23}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = -\frac{x_{12}^2x_{15}x_{23}^2x_{34} - x_{12}^2x_{14}x_{23}^2x_{35} - (x_{12}x_{13}x_{14}x_{23}x_{34} + (x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2)x_{34}^2)x_{45}}{x_{12}^4x_{23}^3x_{34}^2x_{45}}, \\ a_{34} &= 0, a_{35} = \frac{x_{12}^2x_{23}^2x_{34} - x_{12}x_{14}x_{23}}{x_{12}^3x_{23}^3x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{12}x_{23}x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= 0, a_{35} = \frac{x_{23}x_{34}x_{45} - x_{25}}{x_{12}x_{23}^2x_{34}x_{45}}, \\ a_{45} &= -\frac{x_{35}}{x_{12}x_{23}x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{x_{12}x_{23}x_{34}x_{45} - x_{15}}{x_{12}^2x_{23}x_{34}x_{45}}, \\ a_{34} &= 0, a_{35} = \frac{x_{23}x_{34}x_{45} - x_{25}}{x_{12}x_{23}^2x_{34}x_{45}}, \\ a_{45} &= -\frac{x_{35}}{x_{12}x_{23}x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = \frac{x_{12}x_{23}x_{34}^2x_{45} + x_{14}x_{35}}{x_{12}^2x_{23}x_{34}^2x_{45}}, \\ a_{34} &= 0, a_{35} = -\frac{x_{12}x_{25} - (x_{12}x_{23}x_{34} - x_{14})x_{45}}{x_{12}^2x_{23}^2x_{34}x_{45}}, \\ a_{45} &= -\frac{x_{35}}{x_{12}x_{23}x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\
 a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = \frac{x_{12}x_{23}x_{34}^2x_{45} - x_{15}x_{34} + x_{14}x_{35}}{x_{12}^2x_{23}x_{34}^2x_{45}}, \\
 a_{34} &= 0, a_{35} = -\frac{x_{12}x_{25} - (x_{12}x_{23}x_{34} - x_{14})x_{45}}{x_{12}^2x_{23}^2x_{34}x_{45}}, \\
 a_{45} &= -\frac{x_{35}}{x_{12}x_{23}x_{34}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\
 a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{x_{12}^2x_{13}x_{23}x_{25} + (x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2)x_{34}x_{45}}{x_{12}^4x_{23}^3x_{34}x_{45}}, \\
 a_{34} &= 0, a_{35} = \frac{x_{12}^2x_{23}^2x_{34}x_{45} - x_{12}^2x_{23}x_{25}}{x_{12}^3x_{23}^3x_{34}x_{45}}, \\
 a_{45} &= -\frac{x_{35}}{x_{12}x_{23}x_{34}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\
 a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = -\frac{x_{12}^2x_{15}x_{23}^2 - x_{12}^2x_{13}x_{23}x_{25} - (x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2)x_{34}x_{45}}{x_{12}^4x_{23}^3x_{34}x_{45}}, \\
 a_{34} &= 0, a_{35} = \frac{x_{12}^2x_{23}^2x_{34}x_{45} - x_{12}^2x_{23}x_{25}}{x_{12}^3x_{23}^3x_{34}x_{45}}, \\
 a_{45} &= -\frac{x_{35}}{x_{12}x_{23}x_{34}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\
 a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{x_{12}^2x_{23}^2x_{34} - x_{12}x_{14}x_{23}}{x_{12}^3x_{23}^2x_{34}}, \\
 a_{25} &= \frac{x_{12}^2x_{13}x_{23}x_{25}x_{34} + x_{12}^2x_{14}x_{23}^2x_{35} + (x_{12}x_{13}x_{14}x_{23}x_{34} + (x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2)x_{34}^2)x_{45}}{x_{12}^4x_{23}^3x_{34}^2x_{45}}, \\
 a_{34} &= 0, a_{35} = -\frac{x_{12}^2x_{23}x_{25} - (x_{12}^2x_{23}^2x_{34} - x_{12}x_{14}x_{23})x_{45}}{x_{12}^3x_{23}^3x_{34}x_{45}}, \\
 a_{45} &= -\frac{x_{35}}{x_{12}x_{23}x_{34}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\
 a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{x_{12}^2x_{23}^2x_{34} - x_{12}x_{14}x_{23}}{x_{12}^3x_{23}^2x_{34}}, \\
 a_{25} &= \frac{x_{12}^2x_{14}x_{23}^2x_{35} - (x_{12}^2x_{15}x_{23}^2 - x_{12}^2x_{13}x_{23}x_{25})x_{34} + (x_{12}x_{13}x_{14}x_{23}x_{34} + (x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2)x_{34}^2)x_{45}}{x_{12}^4x_{23}^3x_{34}^2x_{45}}, \\
 a_{34} &= 0, a_{35} = -\frac{x_{12}^2x_{23}x_{25} - (x_{12}^2x_{23}^2x_{34} - x_{12}x_{14}x_{23})x_{45}}{x_{12}^3x_{23}^3x_{34}x_{45}}, \\
 a_{45} &= -\frac{x_{35}}{x_{12}x_{23}x_{34}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\
 a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{1}{x_{12}}, \\
 a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = \frac{x_{23}x_{24}x_{35} + (x_{23}^2x_{34}^2 + x_{24}^2)x_{45}}{x_{12}x_{23}^3x_{34}^2x_{45}}, \\
 a_{45} &= -\frac{x_{23}x_{35} + x_{24}x_{45}}{x_{12}x_{23}^2x_{34}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{x_{12}x_{23}x_{34}x_{45} - x_{15}}{x_{12}^2x_{23}x_{34}x_{45}}, \\ a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = \frac{x_{23}x_{24}x_{35} + (x_{23}^2x_{34}^2 + x_{24}^2)x_{45}}{x_{12}x_{23}^3x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{23}x_{35} + x_{24}x_{45}}{x_{12}x_{23}^2x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = \frac{x_{14}x_{23}x_{35} + (x_{12}x_{23}^2x_{34}^2 + x_{14}x_{24})x_{45}}{x_{12}^2x_{23}^2x_{34}^2x_{45}}, \\ a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = \frac{x_{12}x_{23}x_{24}x_{35} + (x_{12}x_{23}^2x_{34}^2 + x_{12}x_{24}^2 - x_{14}x_{23}x_{34})x_{45}}{x_{12}^2x_{23}^3x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{23}x_{35} + x_{24}x_{45}}{x_{12}x_{23}^2x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = -\frac{x_{15}x_{23}x_{34} - x_{14}x_{23}x_{35} - (x_{12}x_{23}^2x_{34}^2 + x_{14}x_{24})x_{45}}{x_{12}^2x_{23}^2x_{34}^2x_{45}}, \\ a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = \frac{x_{12}x_{23}x_{24}x_{35} + (x_{12}x_{23}^2x_{34}^2 + x_{12}x_{24}^2 - x_{14}x_{23}x_{34})x_{45}}{x_{12}^2x_{23}^3x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{23}x_{35} + x_{24}x_{45}}{x_{12}x_{23}^2x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}^2x_{23}^2x_{34} + x_{12}x_{13}x_{24}}{x_{12}^3x_{23}^2x_{34}}, a_{25} = -\frac{x_{12}^2x_{13}x_{23}x_{24}x_{35} + (x_{12}^2x_{13}x_{24}^2 + x_{12}x_{13}^2x_{24}x_{34} - (x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2)x_{34}^2)x_{45}}{x_{12}^4x_{23}^3x_{34}^2x_{45}}, \\ a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = \frac{x_{12}^2x_{23}x_{24}x_{35} + (x_{12}^2x_{23}^2x_{34}^2 + x_{12}^2x_{24}^2 + x_{12}x_{13}x_{24}x_{34})x_{45}}{x_{12}^3x_{23}^3x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{23}x_{35} + x_{24}x_{45}}{x_{12}x_{23}^2x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}^2x_{23}^2x_{34} + x_{12}x_{13}x_{24}}{x_{12}^3x_{23}^2x_{34}}, \\ a_{25} &= -\frac{x_{12}^2x_{15}x_{23}^2x_{34} + x_{12}^2x_{13}x_{23}x_{24}x_{35} + (x_{12}^2x_{13}x_{24}^2 + x_{12}x_{13}^2x_{24}x_{34} - (x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2)x_{34}^2)x_{45}}{x_{12}^4x_{23}^3x_{34}^2x_{45}}, \\ a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = \frac{x_{12}^2x_{23}x_{24}x_{35} + (x_{12}^2x_{23}^2x_{34}^2 + x_{12}^2x_{24}^2 + x_{12}x_{13}x_{24}x_{34})x_{45}}{x_{12}^3x_{23}^3x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{23}x_{35} + x_{24}x_{45}}{x_{12}x_{23}^2x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\
 a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{x_{12}^2x_{23}^2x_{34} - x_{12}x_{14}x_{23} + x_{12}x_{13}x_{24}}{x_{12}^3x_{23}^2x_{34}}, \\
 a_{25} &= \frac{(x_{12}^2x_{14}x_{23}^2 - x_{12}^2x_{13}x_{23}x_{24})x_{35} + (x_{12}^2x_{14}x_{23}x_{24} - x_{12}^2x_{13}x_{24}^2 + (x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2)x_{34}^2 + (x_{12}x_{13}x_{14}x_{23} - x_{12}x_{13}^2x_{24})x_{34})x_{45}}{x_{12}^4x_{23}^3x_{34}^2x_{45}}, \\
 a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = \frac{x_{12}^2x_{23}x_{24}x_{35} + (x_{12}^2x_{23}^2x_{34}^2 + x_{12}^2x_{24}^2 - (x_{12}x_{14}x_{23} - x_{12}x_{13}x_{24})x_{34})x_{45}}{x_{12}^3x_{23}^3x_{34}^2x_{45}}, \\
 a_{45} &= -\frac{x_{23}x_{35} + x_{24}x_{45}}{x_{12}x_{23}^2x_{34}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\
 a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{x_{12}^2x_{23}^2x_{34} - x_{12}x_{14}x_{23} + x_{12}x_{13}x_{24}}{x_{12}^3x_{23}^2x_{34}}, \\
 a_{25} &= -\frac{x_{12}^2x_{15}x_{23}^2x_{34} - (x_{12}^2x_{14}x_{23}^2 - x_{12}^2x_{13}x_{23}x_{24})x_{35} - (x_{12}^2x_{14}x_{23}x_{24} - x_{12}^2x_{13}x_{24}^2 + (x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2)x_{34}^2 + (x_{12}x_{13}x_{14}x_{23} - x_{12}x_{13}^2x_{24})x_{34})x_{45}}{x_{12}^4x_{23}^3x_{34}^2x_{45}}, \\
 a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = \frac{x_{12}^2x_{23}x_{24}x_{35} + (x_{12}^2x_{23}^2x_{34}^2 + x_{12}^2x_{24}^2 - (x_{12}x_{14}x_{23} - x_{12}x_{13}x_{24})x_{34})x_{45}}{x_{12}^3x_{23}^3x_{34}^2x_{45}}, \\
 a_{45} &= -\frac{x_{23}x_{35} + x_{24}x_{45}}{x_{12}x_{23}^2x_{34}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\
 a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{1}{x_{12}}, \\
 a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = -\frac{x_{23}x_{25}x_{34} - x_{23}x_{24}x_{35} - (x_{23}^2x_{34}^2 + x_{24}^2)x_{45}}{x_{12}x_{23}^3x_{34}^2x_{45}}, \\
 a_{45} &= -\frac{x_{23}x_{35} + x_{24}x_{45}}{x_{12}x_{23}^2x_{34}^2x_{45}}
 \end{aligned}$$



$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{x_{12}x_{23}x_{34}x_{45} - x_{15}}{x_{12}^2x_{23}x_{34}x_{45}}, \\ a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = -\frac{x_{23}x_{25}x_{34} - x_{23}x_{24}x_{35} - (x_{23}^2x_{34}^2 + x_{24}^2)x_{45}}{x_{12}x_{23}^3x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{23}x_{35} + x_{24}x_{45}}{x_{12}x_{23}^2x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = \frac{x_{14}x_{23}x_{35} + (x_{12}x_{23}^2x_{34}^2 + x_{14}x_{24})x_{45}}{x_{12}^2x_{23}^2x_{34}^2x_{45}}, \\ a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = -\frac{x_{12}x_{23}x_{25}x_{34} - x_{12}x_{23}x_{24}x_{35} - (x_{12}x_{23}^2x_{34}^2 + x_{12}x_{24}^2 - x_{14}x_{23}x_{34})x_{45}}{x_{12}^2x_{23}^3x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{23}x_{35} + x_{24}x_{45}}{x_{12}x_{23}^2x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}x_{23}x_{34} - x_{14}}{x_{12}^2x_{23}x_{34}}, a_{25} = -\frac{x_{15}x_{23}x_{34} - x_{14}x_{23}x_{35} - (x_{12}x_{23}^2x_{34}^2 + x_{14}x_{24})x_{45}}{x_{12}^2x_{23}^2x_{34}^2x_{45}}, \\ a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = -\frac{x_{12}x_{23}x_{25}x_{34} - x_{12}x_{23}x_{24}x_{35} - (x_{12}x_{23}^2x_{34}^2 + x_{12}x_{24}^2 - x_{14}x_{23}x_{34})x_{45}}{x_{12}^2x_{23}^3x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{23}x_{35} + x_{24}x_{45}}{x_{12}x_{23}^2x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}^2x_{23}^2x_{34} + x_{12}x_{13}x_{24}}{x_{12}^3x_{23}^2x_{34}}, \\ a_{25} &= \frac{x_{12}^2x_{13}x_{23}x_{25}x_{34} - x_{12}^2x_{13}x_{23}x_{24}x_{35} - (x_{12}^2x_{13}x_{24}^2 + x_{12}x_{13}^2x_{24}x_{34} - (x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2)x_{34}^2)x_{45}}{x_{12}^4x_{23}^3x_{34}^2x_{45}}, \\ a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = -\frac{x_{12}^2x_{23}x_{25}x_{34} - x_{12}^2x_{23}x_{24}x_{35} - (x_{12}^2x_{23}^2x_{34}^2 + x_{12}^2x_{24}^2 + x_{12}x_{13}x_{24}x_{34})x_{45}}{x_{12}^3x_{23}^3x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{23}x_{35} + x_{24}x_{45}}{x_{12}x_{23}^2x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{12}^2x_{23}^2x_{34} + x_{12}x_{13}x_{24}}{x_{12}^3x_{23}^2x_{34}}, \\ a_{25} &= -\frac{x_{12}^2x_{13}x_{23}x_{24}x_{35} + (x_{12}^2x_{15}x_{23}^2 - x_{12}^2x_{13}x_{23}x_{25})x_{34} + (x_{12}^2x_{13}x_{24}^2 + x_{12}x_{13}^2x_{24}x_{34} - (x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2)x_{34}^2)x_{45}}{x_{12}^4x_{23}^3x_{34}^2x_{45}}, \\ a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = -\frac{x_{12}^2x_{23}x_{25}x_{34} - x_{12}^2x_{23}x_{24}x_{35} - (x_{12}^2x_{23}^2x_{34}^2 + x_{12}^2x_{24}^2 + x_{12}x_{13}x_{24}x_{34})x_{45}}{x_{12}^3x_{23}^3x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{23}x_{35} + x_{24}x_{45}}{x_{12}x_{23}^2x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\
a_{12} &= \frac{x_{13}}{x_{12}x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= 0, a_{24} = \frac{x_{12}^2x_{23}^2x_{34} - x_{12}x_{14}x_{23} + x_{12}x_{13}x_{24}}{x_{12}^3x_{23}^2x_{34}}, \\
a_{25} &= \frac{x_{12}^2x_{13}x_{23}x_{25}x_{34} + (x_{12}^2x_{14}x_{23}^2 - x_{12}^2x_{13}x_{23}x_{24})x_{35} + (x_{12}^2x_{14}x_{23}x_{24} - x_{12}^2x_{13}x_{24}^2 + (x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2)x_{34}^2 + (x_{12}x_{13}x_{14}x_{23} - x_{12}x_{13}^2x_{24})x_{34})x_{45}}{x_{12}^4x_{23}^3x_{34}^2x_{45}}, \\
a_{34} &= -\frac{x_{24}}{x_{12}x_{23}^2x_{34}}, a_{35} = -\frac{x_{12}^2x_{23}x_{25}x_{34} - x_{12}^2x_{23}x_{24}x_{35} - (x_{12}^2x_{23}^2x_{34}^2 + x_{12}^2x_{24}^2 - (x_{12}x_{14}x_{23} - x_{12}x_{13}x_{24})x_{34})x_{45}}{x_{12}^3x_{23}^3x_{34}^2x_{45}}, \\
a_{45} &= -\frac{x_{23}x_{35} + x_{24}x_{45}}{x_{12}x_{23}^2x_{34}^2x_{45}}
\end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 1 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{12}x_{23}}, d_4 = \frac{1}{x_{12}x_{23}x_{34}}, d_5 = \frac{1}{x_{12}x_{23}x_{34}x_{45}}, \\
a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
a_{23} &= \frac{x_{12}x_{23} - x_{13}}{x_{12}^2x_{23}}, a_{24} = -\frac{x_{12}x_{14}x_{23} - x_{12}x_{13}x_{24} - (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{34}}{x_{12}^3x_{23}^2x_{34}}, \\
a_{25} &= -\frac{x_{12}^2x_{15}x_{23}^2 - x_{12}^2x_{13}x_{23}x_{25})x_{34} - (x_{12}^2x_{14}x_{23}^2 - x_{12}^2x_{13}x_{23}x_{24})x_{35} - (x_{12}^2x_{14}x_{23}x_{24} - x_{12}^2x_{13}x_{24}^2 + (x_{12}^3x_{23}^3 - x_{12}^2x_{13}x_{23}^2 + x_{12}x_{13}^2x_{23} - x_{13}^3)x_{34}^2 - (x_{12}^2x_{14}x_{23}^2 - 2x_{12}x_{13}x_{14}x_{23} - (x_{12}^2x_{13}x_{23} - 2x_{12}x_{13}^2)x_{24})x_{34})x_{45}}{x_{12}^4x_{23}^3x_{34}^2x_{45}}, \\
a_{34} &= -\frac{x_{12}x_{24} - (x_{12}x_{23} - x_{13})x_{34}}{x_{12}^2x_{23}^2x_{34}}, \\
a_{35} &= -\frac{x_{12}^2x_{23}x_{25}x_{34} - x_{12}^2x_{23}x_{24}x_{35} - (x_{12}^2x_{24}^2 + (x_{12}^2x_{23}^2 - x_{12}x_{13}x_{23} + x_{13}^2)x_{34}^2 - (x_{12}x_{14}x_{23} + (x_{12}^2x_{23} - 2x_{12}x_{13})x_{24})x_{34})x_{45}}{x_{12}^3x_{23}^3x_{34}^2x_{45}}, \\
a_{45} &= -\frac{x_{12}x_{23}x_{35} + (x_{12}x_{24} - (x_{12}x_{23} - x_{13})x_{34})x_{45}}{x_{12}^2x_{23}^2x_{34}^2x_{45}}
\end{aligned}$$

#### APPENDIX L. SUBCASES OF $Y_{11}$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 0, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 0, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = \frac{x_{15}}{x_{45}}, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 0, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 0, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 0, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= \frac{x_{14}x_{45} - x_{15}}{x_{14}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 0, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 0, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{15} - x_{45}}{x_{13}x_{45}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 0, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= -\frac{x_{13} - 1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 0, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= -\frac{(x_{13} - 1)x_{14}x_{45} + x_{15}}{x_{14}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 0, a_{15} = 1, \\ a_{23} &= 1, a_{24} = \frac{x_{25}}{x_{45}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = \frac{x_{15}}{x_{45}}, a_{15} = 1, \\ a_{23} &= 1, a_{24} = \frac{x_{25}}{x_{45}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = \frac{x_{25}}{x_{14}x_{45}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = \frac{x_{25}}{x_{14}x_{45}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= \frac{x_{14}x_{45} - x_{15}}{x_{14}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = \frac{x_{25}}{x_{45}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = \frac{x_{25}}{x_{45}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{15} - x_{45}}{x_{13}x_{45}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = \frac{x_{25}}{x_{14}x_{45}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= -\frac{x_{13} - 1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = \frac{x_{25}}{x_{14}x_{45}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= -\frac{(x_{13} - 1)x_{14}x_{45} + x_{15}}{x_{14}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 0, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = \frac{x_{15}}{x_{24}x_{45}}, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\ a_{12} &= \frac{x_{14}}{x_{24}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = \frac{x_{24}}{x_{14}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\ a_{12} &= \frac{x_{14}}{x_{24}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = \frac{x_{24}x_{45} - x_{15}}{x_{14}x_{45}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= \frac{x_{24}x_{45} - x_{15}}{x_{14}x_{24}x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= \frac{1}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = \frac{x_{24}x_{45} - x_{15}}{x_{13}x_{24}x_{45}}, \\ a_{45} &= \frac{1}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\ a_{12} &= \frac{x_{14}}{x_{24}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{14} - x_{24}}{x_{13}x_{24}}, \\ a_{45} &= \frac{1}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\ a_{12} &= \frac{x_{14}}{x_{24}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = -\frac{x_{15} + (x_{14} - x_{24})x_{45}}{x_{13}x_{24}x_{45}}, \\ a_{45} &= \frac{1}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 0, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= \frac{x_{24}x_{45} - x_{25}}{x_{24}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = \frac{x_{15}}{x_{24}x_{45}}, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= \frac{x_{24}x_{45} - x_{25}}{x_{24}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\ a_{12} &= \frac{x_{14}}{x_{24}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = \frac{x_{24}^2x_{45} + x_{14}x_{25}}{x_{14}x_{24}x_{45}}, a_{25} = 1, \\ a_{34} &= 0, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\
 a_{12} &= \frac{x_{14}}{x_{24}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = \frac{x_{24}^2x_{45} - x_{15}x_{24} + x_{14}x_{25}}{x_{14}x_{24}x_{45}}, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = 1, \\
 a_{45} &= \frac{x_{24}x_{45} - x_{15}}{x_{14}x_{24}x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\
 a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = \frac{1}{x_{13}}, \\
 a_{45} &= \frac{x_{24}x_{45} - x_{25}}{x_{24}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\
 a_{12} &= 0, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = \frac{x_{24}x_{45} - x_{15}}{x_{13}x_{24}x_{45}}, \\
 a_{45} &= \frac{x_{24}x_{45} - x_{25}}{x_{24}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\
 a_{12} &= \frac{x_{14}}{x_{24}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = \frac{x_{14}x_{25} - (x_{14}x_{24} - x_{24}^2)x_{45}}{x_{13}x_{24}^2x_{45}}, \\
 a_{45} &= \frac{x_{24}x_{45} - x_{25}}{x_{24}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\
 a_{12} &= \frac{x_{14}}{x_{24}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= 0, a_{35} = -\frac{x_{15}x_{24} - x_{14}x_{25} + (x_{14}x_{24} - x_{24}^2)x_{45}}{x_{13}x_{24}^2x_{45}}, \\
 a_{45} &= \frac{x_{24}x_{45} - x_{25}}{x_{24}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 0, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 0, a_{25} = 1, \\
 a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = 1, \\
 a_{45} &= 1
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = \frac{x_{15}}{x_{45}}, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = 1, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{14}x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{14}x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{x_{14}x_{45} - x_{15}}{x_{14}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{x_{45}}{x_{13}x_{35}}, d_5 = \frac{1}{x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{x_{45}}{x_{13}x_{35}}, d_5 = \frac{1}{x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{x_{13}x_{35} - x_{15}}{x_{13}^2x_{35}}, \\ a_{45} &= 1 \end{aligned}$$

First assume  $x_{14} \neq \frac{-x_{13}x_{35}}{x_{45}}$ .

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{x_{45}}{x_{13}x_{35} + x_{14}x_{45}}, d_5 = \frac{1}{x_{13}x_{35} + x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{13}x_{35} + x_{14}x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{13} - 1}{x_{14}} \end{aligned}$$

Now assume  $x_{14} = \frac{-x_{13}x_{35}}{x_{45}}$ .

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{(x_{13} - 1)x_{45}}{x_{13}x_{35}} \end{aligned}$$

First assume  $x_{14} \neq \frac{-x_{13}x_{35}}{x_{45}}$ .

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{x_{45}}{x_{13}x_{35} + x_{14}x_{45}}, d_5 = \frac{1}{x_{13}x_{35} + x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{13}x_{35} + x_{14}x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{(x_{13} - 1)x_{14}x_{45} + x_{15} + (x_{13}^2 - x_{13})x_{35}}{x_{13}x_{14}x_{35} + x_{14}^2x_{45}} \end{aligned}$$

Now assume  $x_{14} = \frac{-x_{13}x_{35}}{x_{45}}$ .

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{x_{15} + (x_{13} - 1)x_{45}}{x_{13}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 0, a_{15} = 1, \\ a_{23} &= 1, a_{24} = \frac{x_{25}}{x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = 1, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = \frac{x_{15}}{x_{45}}, a_{15} = 1, \\ a_{23} &= 1, a_{24} = \frac{x_{25}}{x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = 1, \\ a_{45} &= 1 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = \frac{x_{25}}{x_{14}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{14}x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{14}}, d_5 = \frac{1}{x_{14}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = \frac{x_{25}}{x_{14}x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{x_{35}}{x_{14}x_{45}}, a_{35} = 1, \\
 a_{45} &= \frac{x_{14}x_{45} - x_{15}}{x_{14}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{x_{45}}{x_{13}x_{35}}, d_5 = \frac{1}{x_{13}x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = \frac{x_{25}}{x_{13}x_{35}}, a_{25} = 1, \\
 a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\
 a_{45} &= 1
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{x_{45}}{x_{13}x_{35}}, d_5 = \frac{1}{x_{13}x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = \frac{x_{25}}{x_{13}x_{35}}, a_{25} = 1, \\
 a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{x_{13}x_{35} - x_{15}}{x_{13}^2x_{35}}, \\
 a_{45} &= 1
 \end{aligned}$$

First assume  $x_{14} \neq \frac{-x_{13}x_{35}}{x_{45}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{x_{45}}{x_{13}x_{35} + x_{14}x_{45}}, d_5 = \frac{1}{x_{13}x_{35} + x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = \frac{x_{25}}{x_{13}x_{35} + x_{14}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{13}x_{35} + x_{14}x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{13} - 1}{x_{14}} \end{aligned}$$

Now assume  $x_{14} = \frac{-x_{13}x_{35}}{x_{45}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = \frac{x_{25}}{x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{(x_{13} - 1)x_{45}}{x_{13}x_{35}} \end{aligned}$$

First assume  $x_{14} \neq \frac{-x_{13}x_{35}}{x_{45}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{x_{45}}{x_{13}x_{35} + x_{14}x_{45}}, d_5 = \frac{1}{x_{13}x_{35} + x_{14}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = \frac{x_{25}}{x_{13}x_{35} + x_{14}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{13}x_{35} + x_{14}x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{(x_{13} - 1)x_{14}x_{45} + x_{15} + (x_{13}^2 - x_{13})x_{35}}{x_{13}x_{14}x_{35} + x_{14}^2x_{45}} \end{aligned}$$

Now assume  $x_{14} = \frac{-x_{13}x_{35}}{x_{45}}$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = 1, d_5 = \frac{1}{x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = \frac{x_{25}}{x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{x_{15} + (x_{13} - 1)x_{45}}{x_{13}x_{35}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 0, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{24}x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = \frac{x_{15}}{x_{24}x_{45}}, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{24}x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\ a_{12} &= \frac{x_{14}}{x_{24}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = \frac{x_{24}}{x_{14}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{24}x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\ a_{12} &= \frac{x_{14}}{x_{24}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = \frac{x_{24}x_{45} - x_{15}}{x_{14}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{24}x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{x_{24}x_{45} - x_{15}}{x_{14}x_{24}x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\ a_{12} &= \frac{x_{13}x_{35}}{x_{24}x_{45}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{24}x_{45}}, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= \frac{1}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\ a_{12} &= \frac{x_{13}x_{35}}{x_{24}x_{45}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{24}x_{45}}, a_{35} = \frac{x_{24}x_{45} - x_{15}}{x_{13}x_{24}x_{45}}, \\ a_{45} &= \frac{1}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\ a_{12} &= \frac{x_{13}x_{35} + x_{14}x_{45}}{x_{24}x_{45}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{24}x_{45}}, a_{35} = -\frac{x_{14} - x_{24}}{x_{13}x_{24}}, \\ a_{45} &= \frac{1}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\ a_{12} &= \frac{x_{13}x_{35} + x_{14}x_{45}}{x_{24}x_{45}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{24}x_{45}}, a_{35} = -\frac{x_{15} + (x_{14} - x_{24})x_{45}}{x_{13}x_{24}x_{45}}, \\ a_{45} &= \frac{1}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = 0, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{24}x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{x_{24}x_{45} - x_{25}}{x_{24}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\ a_{12} &= 0, a_{13} = 1, a_{14} = \frac{x_{15}}{x_{24}x_{45}}, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{24}x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{x_{24}x_{45} - x_{25}}{x_{24}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\ a_{12} &= \frac{x_{14}}{x_{24}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 1, a_{24} = \frac{x_{24}^2x_{45} + x_{14}x_{25}}{x_{14}x_{24}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{35}}{x_{24}x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\
 a_{12} &= \frac{x_{14}}{x_{24}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = \frac{x_{24}^2x_{45} - x_{15}x_{24} + x_{14}x_{25}}{x_{14}x_{24}x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{x_{35}}{x_{24}x_{45}}, a_{35} = 1, \\
 a_{45} &= \frac{x_{24}x_{45} - x_{15}}{x_{14}x_{24}x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\
 a_{12} &= \frac{x_{13}x_{35}}{x_{24}x_{45}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{x_{35}}{x_{24}x_{45}}, a_{35} = \frac{1}{x_{13}}, \\
 a_{45} &= \frac{x_{24}x_{45} - x_{25}}{x_{24}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\
 a_{12} &= \frac{x_{13}x_{35}}{x_{24}x_{45}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{x_{35}}{x_{24}x_{45}}, a_{35} = \frac{x_{24}x_{45} - x_{15}}{x_{13}x_{24}x_{45}}, \\
 a_{45} &= \frac{x_{24}x_{45} - x_{25}}{x_{24}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\
 a_{12} &= \frac{x_{13}x_{35} + x_{14}x_{45}}{x_{24}x_{45}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{x_{35}}{x_{24}x_{45}}, a_{35} = \frac{x_{14}x_{25} - (x_{14}x_{24} - x_{24}^2)x_{45}}{x_{13}x_{24}^2x_{45}}, \\
 a_{45} &= \frac{x_{24}x_{45} - x_{25}}{x_{24}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & 0 & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{24}}, d_5 = \frac{1}{x_{24}x_{45}}, \\
 a_{12} &= \frac{x_{13}x_{35} + x_{14}x_{45}}{x_{24}x_{45}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{x_{35}}{x_{24}x_{45}}, a_{35} = -\frac{x_{15}x_{24} - x_{14}x_{25} + (x_{14}x_{24} - x_{24}^2)x_{45}}{x_{13}x_{24}^2x_{45}}, \\
 a_{45} &= \frac{x_{24}x_{45} - x_{25}}{x_{24}^2x_{45}}
 \end{aligned}$$

#### APPENDIX M. SUBCASES OF $Y_{12}$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\
 a_{12} &= 1, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= 1, a_{35} = 1, \\
 a_{45} &= 0
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{15}}, \\ a_{12} &= 1, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{15}}, \\ a_{12} &= 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = -\frac{x_{15}}{x_{13}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = -\frac{x_{15}}{x_{13}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= 0, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= \frac{x_{15}}{x_{25}}, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= \frac{x_{15}}{x_{25}}, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = -\frac{x_{15} - x_{25}}{x_{13}x_{25}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = -\frac{x_{15} - x_{25}}{x_{13}x_{25}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{15}}, \\ a_{12} &= 1, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{15}}, \\ a_{12} &= 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = -\frac{x_{15}}{x_{13}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = 0, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = -\frac{x_{15}}{x_{13}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= 0, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= \frac{x_{15}}{x_{25}}, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= \frac{x_{15}}{x_{25}}, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = -\frac{x_{15} - x_{25}}{x_{13}x_{25}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = -\frac{x_{15} - x_{25}}{x_{13}x_{25}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{15}}, \\ a_{12} &= 1, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{35}}{x_{15}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = -\frac{x_{34}}{x_{14}x_{35}}, \\ a_{12} &= 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

First assume  $x_{15} \neq \frac{x_{14}x_{35}}{x_{34}}$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{x_{34}}{x_{15}x_{34} - x_{14}x_{35}}, \\ a_{12} &= 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{35}}{x_{15}x_{34} - x_{14}x_{35}} \end{aligned}$$

Now assume  $x_{15} = \frac{x_{14}x_{35}}{x_{34}}$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = 0, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = -\frac{x_{15}}{x_{13}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = \frac{x_{14}x_{35}}{x_{13}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = -\frac{x_{15}x_{34} - x_{14}x_{35}}{x_{13}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= 0, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{35}}{x_{25}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= \frac{x_{15}}{x_{25}}, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{35}}{x_{25}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= -\frac{x_{14}x_{35}}{x_{25}x_{34}}, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{35}}{x_{25}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= \frac{x_{15}x_{34} - x_{14}x_{35}}{x_{25}x_{34}}, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{35}}{x_{25}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= -\frac{x_{35}}{x_{25}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = -\frac{x_{15} - x_{25}}{x_{13}x_{25}}, \\ a_{45} &= -\frac{x_{35}}{x_{25}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = \frac{x_{25}x_{34} + x_{14}x_{35}}{x_{13}x_{25}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{25}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = \frac{x_{14}x_{35} - (x_{15} - x_{25})x_{34}}{x_{13}x_{25}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{25}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = -\frac{x_{34}}{x_{24}x_{35}}, \\ a_{12} &= 0, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = -\frac{x_{34}}{x_{24}x_{35}}, \\ a_{12} &= -\frac{x_{15}x_{34}}{x_{24}x_{35}}, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = -\frac{x_{34}}{x_{24}x_{35}}, \\ a_{12} &= \frac{x_{14}}{x_{24}}, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = -\frac{x_{34}}{x_{24}x_{35}}, \\
 a_{12} &= -\frac{x_{15}x_{34} - x_{14}x_{35}}{x_{24}x_{35}}, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= 1, a_{35} = 1, \\
 a_{45} &= \frac{1}{x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = -\frac{x_{34}}{x_{24}x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\
 a_{45} &= \frac{1}{x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = -\frac{x_{34}}{x_{24}x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{x_{15}x_{34} + x_{24}x_{35}}{x_{13}x_{24}x_{35}}, \\
 a_{45} &= \frac{1}{x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = -\frac{x_{34}}{x_{24}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = -\frac{x_{14} - x_{24}}{x_{13}x_{24}}, \\ a_{45} &= \frac{1}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = -\frac{x_{34}}{x_{24}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = \frac{x_{15}x_{34} - (x_{14} - x_{24})x_{35}}{x_{13}x_{24}x_{35}}, \\ a_{45} &= \frac{1}{x_{24}} \end{aligned}$$

First assume  $x_{25} \neq \frac{x_{24}x_{35}}{x_{34}}$ .

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{x_{34}}{x_{25}x_{34} - x_{24}x_{35}}, \\ a_{12} &= 0, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{35}}{x_{25}x_{34} - x_{24}x_{35}} \end{aligned}$$

Now assume  $x_{25} = \frac{x_{24}x_{35}}{x_{34}}$ .

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

First assume  $x_{25} \neq \frac{x_{24}x_{35}}{x_{34}}$ .

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{x_{34}}{x_{25}x_{34} - x_{24}x_{35}}, \\ a_{12} &= \frac{x_{15}x_{34}}{x_{25}x_{34} - x_{24}x_{35}}, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{35}}{x_{25}x_{34} - x_{24}x_{35}} \end{aligned}$$

Now assume  $x_{25} = \frac{x_{24}x_{35}}{x_{34}}$ .

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{15}}, \\ a_{12} &= 1, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{35}}{x_{15}x_{34}} \end{aligned}$$

First assume  $x_{25} \neq \frac{x_{24}x_{35}}{x_{34}}$ .

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 = 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{x_{34}}{x_{25}x_{34} - x_{24}x_{35}}, \\ a_{12} = -\frac{x_{14}x_{35}}{x_{25}x_{34} - x_{24}x_{35}}, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} = \frac{x_{24}}{x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} = 1, a_{35} = 1, \\ a_{45} = -\frac{x_{35}}{x_{25}x_{34} - x_{24}x_{35}} \end{aligned}$$

Now assume  $x_{25} = \frac{x_{24}x_{35}}{x_{34}}$ .

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 = 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = -\frac{x_{34}}{x_{14}x_{35}}, \\ a_{12} = 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} = \frac{x_{24}}{x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} = 1, a_{35} = 1, \\ a_{45} = \frac{1}{x_{14}} \end{aligned}$$

First assume  $x_{25} \neq \frac{x_{24}x_{35}}{x_{34}}$ .

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 = 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{x_{34}}{x_{25}x_{34} - x_{24}x_{35}}, \\ a_{12} = \frac{x_{15}x_{34} - x_{14}x_{35}}{x_{25}x_{34} - x_{24}x_{35}}, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} = \frac{x_{24}}{x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} = 1, a_{35} = 1, \\ a_{45} = -\frac{x_{35}}{x_{25}x_{34} - x_{24}x_{35}} \end{aligned}$$

Now assume  $x_{25} = \frac{x_{24}x_{35}}{x_{34}}$  and  $x_{15} \neq \frac{x_{14}x_{35}}{x_{34}}$ .

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 = 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{x_{34}}{x_{15}x_{34} - x_{14}x_{35}}, \\ a_{12} = 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} = \frac{x_{24}}{x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} = 1, a_{35} = 1, \\ a_{45} = -\frac{x_{35}}{x_{15}x_{34} - x_{14}x_{35}} \end{aligned}$$

Now assume  $x_{25} = \frac{x_{24}x_{35}}{x_{34}}$  and  $x_{15} = \frac{x_{14}x_{35}}{x_{34}}$ .

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 = 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\ a_{12} = 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} = \frac{x_{24}}{x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} = 1, a_{35} = 1, \\ a_{45} = -\frac{x_{35}}{x_{34}} \end{aligned}$$

First assume  $x_{25} \neq \frac{x_{24}x_{35}}{x_{34}}$ .

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 = 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{x_{34}}{x_{25}x_{34} - x_{24}x_{35}}, \\ a_{12} = 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} = \frac{x_{24}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} = \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\ a_{45} = -\frac{x_{35}}{x_{25}x_{34} - x_{24}x_{35}} \end{aligned}$$

Now assume  $x_{25} = \frac{x_{24}x_{35}}{x_{34}}$ .

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = 0, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

First assume  $x_{25} \neq \frac{x_{24}x_{35}}{x_{34}}$ .

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{x_{34}}{x_{25}x_{34} - x_{24}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = -\frac{x_{24}x_{35} + (x_{15} - x_{25})x_{34}}{x_{13}x_{25}x_{34} - x_{13}x_{24}x_{35}}, \\ a_{45} &= -\frac{x_{35}}{x_{25}x_{34} - x_{24}x_{35}} \end{aligned}$$

Now assume  $x_{25} = \frac{x_{24}x_{35}}{x_{34}}$ .

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = -\frac{x_{15}}{x_{13}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

First assume  $x_{25} \neq \frac{x_{24}x_{35}}{x_{34}}$ .

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{x_{34}}{x_{25}x_{34} - x_{24}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = \frac{x_{25}x_{34} + (x_{14} - x_{24})x_{35}}{x_{13}x_{25}x_{34} - x_{13}x_{24}x_{35}}, \\ a_{45} &= -\frac{x_{35}}{x_{25}x_{34} - x_{24}x_{35}} \end{aligned}$$

Now assume  $x_{25} = \frac{x_{24}x_{35}}{x_{34}}$ .

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = \frac{x_{14}x_{35}}{x_{13}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

First assume  $x_{25} \neq \frac{x_{24}x_{35}}{x_{34}}$ .

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{x_{34}}{x_{25}x_{34} - x_{24}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = -\frac{(x_{15} - x_{25})x_{34} - (x_{14} - x_{24})x_{35}}{x_{13}x_{25}x_{34} - x_{13}x_{24}x_{35}}, \\ a_{45} &= -\frac{x_{35}}{x_{25}x_{34} - x_{24}x_{35}} \end{aligned}$$

Now assume  $x_{25} = \frac{x_{24}x_{35}}{x_{34}}$ .

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = 1, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = -\frac{x_{15}x_{34} - x_{14}x_{35}}{x_{13}x_{34}}, \\
 a_{45} &= -\frac{x_{35}}{x_{34}}
 \end{aligned}$$

#### APPENDIX N. SUBCASES OF $Y_{13}$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\
 a_{12} &= 1, a_{13} = 0, a_{14} = 0, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\
 a_{34} &= 1, a_{35} = 1, \\
 a_{45} &= \frac{1}{x_{34}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\
 a_{12} &= 1, a_{13} = 0, a_{14} = \frac{x_{15}}{x_{34}x_{45}}, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\
 a_{34} &= 1, a_{35} = 1, \\
 a_{45} &= \frac{1}{x_{34}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{x_{34}}{x_{14}}, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{x_{34}x_{45} - x_{15}}{x_{14}x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{x_{34}x_{45} - x_{15}}{x_{14}x_{34}x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 11 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= \frac{1}{x_{13}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{x_{13}x_{34}x_{45} - x_{15}}{x_{13}^2x_{34}x_{45}}, \\ a_{45} &= \frac{1}{x_{13}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = \frac{x_{13}^2x_{34}^2 - x_{13}x_{14}x_{34} + x_{14}^2}{x_{13}^3x_{34}^2}, \\ a_{45} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = -\frac{x_{13}x_{15}x_{34} - (x_{13}^2x_{34}^2 - x_{13}x_{14}x_{34} + x_{14}^2)x_{45}}{x_{13}^3x_{34}^2x_{45}}, \\ a_{45} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 0, a_{14} = 0, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 0, a_{14} = \frac{x_{15}}{x_{34}x_{45}}, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{34}}{x_{14}}, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{34}x_{45} - x_{15}}{x_{14}x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{x_{34}x_{45} - x_{15}}{x_{14}x_{34}x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{13}x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= \frac{1}{x_{13}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{13}x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{x_{13}x_{34}x_{45} - x_{15}}{x_{13}^2x_{34}x_{45}}, \\ a_{45} &= \frac{1}{x_{13}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{13}x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = \frac{x_{13}^2x_{34}^2 - x_{13}x_{14}x_{34} + x_{14}^2}{x_{13}^3x_{34}^2}, \\ a_{45} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{13}x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = -\frac{x_{13}x_{15}x_{34} - (x_{13}^2x_{34}^2 - x_{13}x_{14}x_{34} + x_{14}^2)x_{45}}{x_{13}^3x_{34}^2x_{45}}, \\ a_{45} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 0, a_{14} = 0, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{34}}{x_{24}}, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\
 a_{12} &= 1, a_{13} = 0, a_{14} = \frac{x_{15}}{x_{34}x_{45}}, a_{15} = 1, \\
 a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{x_{34}}{x_{24}}, a_{35} = 1, \\
 a_{45} &= \frac{1}{x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\
 a_{12} &= 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = \frac{x_{24}}{x_{14}}, a_{25} = 1, \\
 a_{34} &= \frac{x_{34}}{x_{14}}, a_{35} = 1, \\
 a_{45} &= \frac{1}{x_{14}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\
 a_{12} &= 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = \frac{x_{24}x_{34}x_{45} - x_{15}x_{24}}{x_{14}x_{34}x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{x_{34}x_{45} - x_{15}}{x_{14}x_{45}}, a_{35} = 1, \\
 a_{45} &= \frac{x_{34}x_{45} - x_{15}}{x_{14}x_{34}x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = \frac{x_{24}}{x_{13}x_{34}}, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= \frac{1}{x_{13}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = \frac{x_{24}}{x_{13}x_{34}}, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{x_{13}x_{34}x_{45} - x_{15}}{x_{13}^2x_{34}x_{45}}, \\ a_{45} &= \frac{1}{x_{13}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = \frac{x_{13}x_{24}x_{34} - x_{14}x_{24}}{x_{13}^2x_{34}^2}, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = \frac{x_{13}^2x_{34}^2 - x_{13}x_{14}x_{34} + x_{14}^2}{x_{13}^3x_{34}^2}, \\ a_{45} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = \frac{x_{13}x_{24}x_{34} - x_{14}x_{24}}{x_{13}^2x_{34}^2}, a_{25} = 1, \\
 a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = -\frac{x_{13}x_{15}x_{34} - (x_{13}^2x_{34}^2 - x_{13}x_{14}x_{34} + x_{14}^2)x_{45}}{x_{13}^3x_{34}^2x_{45}}, \\
 a_{45} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}^2}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\
 a_{12} &= 1, a_{13} = 0, a_{14} = 0, a_{15} = 1, \\
 a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{x_{34}x_{45} - x_{25}}{x_{24}x_{45}}, a_{35} = 1, \\
 a_{45} &= \frac{x_{34}x_{45} - x_{25}}{x_{24}x_{34}x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\
 a_{12} &= 1, a_{13} = 0, a_{14} = \frac{x_{15}}{x_{34}x_{45}}, a_{15} = 1, \\
 a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{x_{34}x_{45} - x_{25}}{x_{24}x_{45}}, a_{35} = 1, \\
 a_{45} &= \frac{x_{34}x_{45} - x_{25}}{x_{24}x_{34}x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = \frac{x_{24}x_{34}x_{45} + x_{14}x_{25}}{x_{14}x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{34}}{x_{14}}, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = \frac{x_{24}x_{34}x_{45} - x_{15}x_{24} + x_{14}x_{25}}{x_{14}x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{34}x_{45} - x_{15}}{x_{14}x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{x_{34}x_{45} - x_{15}}{x_{14}x_{34}x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = \frac{x_{24}x_{45} + x_{25}}{x_{13}x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= \frac{1}{x_{13}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = \frac{x_{24}x_{45} + x_{25}}{x_{13}x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{x_{13}x_{34}x_{45} - x_{15}}{x_{13}^2x_{34}x_{45}}, \\ a_{45} &= \frac{1}{x_{13}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = \frac{x_{13}x_{25}x_{34} + (x_{13}x_{24}x_{34} - x_{14}x_{24})x_{45}}{x_{13}^2x_{34}^2x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = \frac{x_{13}^2x_{34}^2 - x_{13}x_{14}x_{34} + x_{14}^2}{x_{13}^3x_{34}^2}, \\ a_{45} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = \frac{x_{13}x_{25}x_{34} + (x_{13}x_{24}x_{34} - x_{14}x_{24})x_{45}}{x_{13}^2x_{34}^2x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = -\frac{x_{13}x_{15}x_{34} - (x_{13}^2x_{34}^2 - x_{13}x_{14}x_{34} + x_{14}^2)x_{45}}{x_{13}^3x_{34}^2x_{45}}, \\ a_{45} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 0, a_{14} = 0, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= \frac{x_{34}x_{45} - x_{35}}{x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 0, a_{14} = \frac{x_{15}}{x_{34}x_{45}}, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= \frac{x_{34}x_{45} - x_{35}}{x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{x_{34}^2x_{45} + x_{14}x_{35}}{x_{14}x_{34}x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{x_{34}^2x_{45} - x_{15}x_{34} + x_{14}x_{35}}{x_{14}x_{34}x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{x_{34}x_{45} - x_{15}}{x_{14}x_{34}x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= \frac{x_{34}x_{45} - x_{35}}{x_{13}x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{x_{13}x_{34}x_{45} - x_{15}}{x_{13}^2x_{34}x_{45}}, \\ a_{45} &= \frac{x_{34}x_{45} - x_{35}}{x_{13}x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{1x_{13}x_{34} - 1x_{14}}{x_{13}^2x_{34}}, a_{35} = \frac{1x_{13}x_{14}x_{35} + (1x_{13}^2x_{34}^2 - 1x_{13}x_{14}x_{34} + 1x_{14}^2)x_{45}}{x_{13}^3x_{34}^2x_{45}}, \\ a_{45} &= -\frac{1x_{13}x_{35} - (1x_{13}x_{34} - 1x_{14})x_{45}}{x_{13}^2x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{1x_{13}x_{34} - 1x_{14}}{x_{13}^2x_{34}}, a_{35} = -\frac{1x_{13}x_{15}x_{34} - 1x_{13}x_{14}x_{35} - (1x_{13}^2x_{34}^2 - 1x_{13}x_{14}x_{34} + 1x_{14}^2)x_{45}}{x_{13}^3x_{34}^2x_{45}}, \\ a_{45} &= -\frac{1x_{13}x_{35} - (1x_{13}x_{34} - 1x_{14})x_{45}}{x_{13}^2x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 0, a_{14} = 0, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1x_{25}}{x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= \frac{1x_{34}x_{45} - 1x_{35}}{x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\
 a_{12} &= 1, a_{13} = 0, a_{14} = \frac{1x_{15}}{x_{34}x_{45}}, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{1x_{25}}{x_{34}x_{45}}, a_{25} = 1, \\
 a_{34} &= 1, a_{35} = 1, \\
 a_{45} &= \frac{1x_{34}x_{45} - 1x_{35}}{x_{34}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\
 a_{12} &= 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{34}x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{x_{34}^2x_{45} + x_{14}x_{35}}{x_{14}x_{34}x_{45}}, a_{35} = 1, \\
 a_{45} &= \frac{1}{x_{14}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\
 a_{12} &= 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{34}x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{x_{34}^2x_{45} - x_{15}x_{34} + x_{14}x_{35}}{x_{14}x_{34}x_{45}}, a_{35} = 1, \\
 a_{45} &= \frac{x_{34}x_{45} - x_{15}}{x_{14}x_{34}x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{13}x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= \frac{x_{34}x_{45} - x_{35}}{x_{13}x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{13}x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{x_{13}x_{34}x_{45} - x_{15}}{x_{13}^2x_{34}x_{45}}, \\ a_{45} &= \frac{x_{34}x_{45} - x_{35}}{x_{13}x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{13}x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = \frac{x_{13}x_{14}x_{35} + (x_{13}^2x_{34}^2 - x_{13}x_{14}x_{34} + x_{14}^2)x_{45}}{x_{13}^3x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{13}x_{35} - (x_{13}x_{34} - x_{14})x_{45}}{x_{13}^2x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{13}x_{34}x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = -\frac{x_{13}x_{15}x_{34} - x_{13}x_{14}x_{35} - (x_{13}^2x_{34}^2 - x_{13}x_{14}x_{34} + x_{14}^2)x_{45}}{x_{13}^3x_{34}^2x_{45}}, \\
 a_{45} &= -\frac{x_{13}x_{35} - (x_{13}x_{34} - x_{14})x_{45}}{x_{13}^2x_{34}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\
 a_{12} &= 1, a_{13} = 0, a_{14} = 0, a_{15} = 1, \\
 a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{x_{34}^2x_{45} + x_{24}x_{35}}{x_{24}x_{34}x_{45}}, a_{35} = 1, \\
 a_{45} &= \frac{1}{x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\
 a_{12} &= 1, a_{13} = 0, a_{14} = \frac{x_{15}}{x_{34}x_{45}}, a_{15} = 1, \\
 a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{x_{34}^2x_{45} + x_{24}x_{35}}{x_{24}x_{34}x_{45}}, a_{35} = 1, \\
 a_{45} &= \frac{1}{x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\
 a_{12} &= 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = \frac{x_{24}}{x_{14}}, a_{25} = 1, \\
 a_{34} &= \frac{x_{34}^2x_{45} + x_{14}x_{35}}{x_{14}x_{34}x_{45}}, a_{35} = 1, \\
 a_{45} &= \frac{1}{x_{14}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\
 a_{12} &= 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = \frac{x_{24}x_{34}x_{45} - x_{15}x_{24}}{x_{14}x_{34}x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{x_{34}^2x_{45} - x_{15}x_{34} + x_{14}x_{35}}{x_{14}x_{34}x_{45}}, a_{35} = 1, \\
 a_{45} &= \frac{x_{34}x_{45} - x_{15}}{x_{14}x_{34}x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = \frac{x_{24}x_{34}x_{45} - x_{24}x_{35}}{x_{13}x_{34}^2x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\
 a_{45} &= \frac{x_{34}x_{45} - x_{35}}{x_{13}x_{34}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = \frac{x_{24}x_{34}x_{45} - x_{24}x_{35}}{x_{13}x_{34}^2x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{x_{13}x_{34}x_{45} - x_{15}}{x_{13}^2x_{34}x_{45}}, \\ a_{45} &= \frac{x_{34}x_{45} - x_{35}}{x_{13}x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = -\frac{x_{13}x_{24}x_{35} - (x_{13}x_{24}x_{34} - x_{14}x_{24})x_{45}}{x_{13}^2x_{34}^2x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = \frac{x_{13}x_{14}x_{35} + (x_{13}^2x_{34}^2 - x_{13}x_{14}x_{34} + x_{14}^2)x_{45}}{x_{13}^3x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{13}x_{35} - (x_{13}x_{34} - x_{14})x_{45}}{x_{13}^2x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = -\frac{x_{13}x_{24}x_{35} - (x_{13}x_{24}x_{34} - x_{14}x_{24})x_{45}}{x_{13}^2x_{34}^2x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = -\frac{x_{13}x_{15}x_{34} - x_{13}x_{14}x_{35} - (x_{13}^2x_{34}^2 - x_{13}x_{14}x_{34} + x_{14}^2)x_{45}}{x_{13}^3x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{13}x_{35} - (x_{13}x_{34} - x_{14})x_{45}}{x_{13}^2x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\
 a_{12} &= 1, a_{13} = 0, a_{14} = 0, a_{15} = 1, \\
 a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{x_{34}^2x_{45} - x_{25}x_{34} + x_{24}x_{35}}{x_{24}x_{34}x_{45}}, a_{35} = 1, \\
 a_{45} &= \frac{x_{34}x_{45} - x_{25}}{x_{24}x_{34}x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\
 a_{12} &= 1, a_{13} = 0, a_{14} = \frac{x_{15}}{x_{34}x_{45}}, a_{15} = 1, \\
 a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{x_{34}^2x_{45} - x_{25}x_{34} + x_{24}x_{35}}{x_{24}x_{34}x_{45}}, a_{35} = 1, \\
 a_{45} &= \frac{x_{34}x_{45} - x_{25}}{x_{24}x_{34}x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\
 a_{12} &= 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = \frac{x_{24}x_{34}x_{45} + x_{14}x_{25}}{x_{14}x_{34}x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{x_{34}^2x_{45} + x_{14}x_{35}}{x_{14}x_{34}x_{45}}, a_{35} = 1, \\
 a_{45} &= \frac{1}{x_{14}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\
 a_{12} &= 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = \frac{x_{24}x_{34}x_{45} - x_{15}x_{24} + x_{14}x_{25}}{x_{14}x_{34}x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{x_{34}^2x_{45} - x_{15}x_{34} + x_{14}x_{35}}{x_{14}x_{34}x_{45}}, a_{35} = 1, \\
 a_{45} &= \frac{x_{34}x_{45} - x_{15}}{x_{14}x_{34}x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = \frac{x_{24}x_{34}x_{45} + x_{25}x_{34} - x_{24}x_{35}}{x_{13}x_{34}^2x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1+1}{x_{13}}, \\
 a_{45} &= \frac{(1+1)x_{34}x_{45} - x_{35}}{x_{13}x_{34}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = \frac{x_{24}x_{34}x_{45} + x_{25}x_{34} - x_{24}x_{35}}{x_{13}x_{34}^2x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{(1+1)x_{13}x_{34}x_{45} - x_{15}}{x_{13}^2x_{34}x_{45}}, \\
 a_{45} &= \frac{(1+1)x_{34}x_{45} - x_{35}}{x_{13}x_{34}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = \frac{x_{13}x_{25}x_{34} - x_{13}x_{24}x_{35} + (x_{13}x_{24}x_{34} - x_{14}x_{24})x_{45}}{x_{13}^2x_{34}^2x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = \frac{x_{13}x_{14}x_{35} + (x_{13}^2x_{34}^2 - x_{13}x_{14}x_{34} + x_{14}^2)x_{45}}{x_{13}^3x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{13}x_{35} - (x_{13}x_{34} - x_{14})x_{45}}{x_{13}^2x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{13}x_{34}}, a_{24} = \frac{x_{13}x_{25}x_{34} - x_{13}x_{24}x_{35} + (x_{13}x_{24}x_{34} - x_{14}x_{24})x_{45}}{x_{13}^2x_{34}^2x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = -\frac{x_{13}x_{15}x_{34} - x_{13}x_{14}x_{35} - (x_{13}^2x_{34}^2 - x_{13}x_{14}x_{34} + x_{14}^2)x_{45}}{x_{13}^3x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{13}x_{35} - (x_{13}x_{34} - x_{14})x_{45}}{x_{13}^2x_{34}^2x_{45}} \end{aligned}$$

#### APPENDIX O. SUBCASES OF $Y_{14}$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = 0, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = -\frac{x_{15}}{x_{12}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = -\frac{x_{14} - x_{34}}{x_{12}x_{34}}, a_{25} = 0, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = -\frac{x_{14} - x_{34}}{x_{12}x_{34}}, a_{25} = -\frac{x_{15}}{x_{12}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{12}}{x_{13}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{12} + x_{15}}{x_{13}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{(x_{12} - 1)x_{13}x_{34} + x_{14}}{x_{13}^2x_{34}}, a_{35} = -\frac{x_{12}}{x_{13}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{(x_{12} - 1)x_{13}x_{34} + x_{14}}{x_{13}^2x_{34}}, a_{35} = -\frac{x_{12} + x_{15}}{x_{13}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{x_{12}x_{25} - x_{15}}{x_{12}^2x_{25}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = -\frac{x_{14} - x_{34}}{x_{12}x_{34}}, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = -\frac{x_{14} - x_{34}}{x_{12}x_{34}}, a_{25} = \frac{x_{12}x_{25} - x_{15}}{x_{12}^2x_{25}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}-1}{x_{13}}, a_{35} = -\frac{x_{15} + (x_{12}^2 - x_{12})x_{25}}{x_{12}x_{13}x_{25}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{(x_{12}-1)x_{13}x_{34} + x_{14}}{x_{13}^2x_{34}}, a_{35} = -\frac{x_{12}-1}{x_{13}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{(x_{12}-1)x_{13}x_{34} + x_{14}}{x_{13}^2x_{34}}, a_{35} = -\frac{x_{15} + (x_{12}^2 - x_{12})x_{25}}{x_{12}x_{13}x_{25}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = 0, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = -\frac{x_{15}}{x_{12}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = 0, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = -\frac{x_{15}}{x_{12}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{12}}{x_{13}}, \\ a_{45} &= 0 \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{12}}{x_{13}}, \\ a_{45} &= 0 \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{12} + x_{15}}{x_{13}}, \\ a_{45} &= 0 \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{12} + x_{15}}{x_{13}}, \\ a_{45} &= 0 \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{(x_{12} - 1)x_{13}x_{34} + x_{14} + (x_{12}^2 - x_{12})x_{24}}{x_{12}x_{13}x_{24} + x_{13}^2x_{34}}, a_{35} = -\frac{x_{12}}{x_{13}}, \\ a_{45} &= 0 \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{14} + (x_{12} - 1)x_{34}}{x_{13}x_{34}}, a_{35} = -\frac{x_{12}}{x_{13}}, \\ a_{45} &= 0 \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{(x_{12} - 1)x_{13}x_{34} + x_{14} + (x_{12}^2 - x_{12})x_{24}}{x_{12}x_{13}x_{24} + x_{13}^2x_{34}}, a_{35} = -\frac{x_{12} + x_{15}}{x_{13}}, \\ a_{45} &= 0 \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{14} + (x_{12} - 1)x_{34}}{x_{13}x_{34}}, a_{35} = -\frac{x_{12} + x_{15}}{x_{13}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{x_{12}x_{25} - x_{15}}{x_{12}^2x_{25}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = \frac{x_{12}x_{25} - x_{15}}{x_{12}^2x_{25}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= 0 \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= 0 \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= 0 \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{15} + (x_{12}^2 - x_{12})x_{25}}{x_{12}x_{13}x_{25}}, \\ a_{45} &= 0 \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{15} + (x_{12}^2 - x_{12})x_{25}}{x_{12}x_{13}x_{25}}, \\ a_{45} &= 0 \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{(x_{12} - 1)x_{13}x_{34} + x_{14} + (x_{12}^2 - x_{12})x_{24}}{x_{12}x_{13}x_{24} + x_{13}^2x_{34}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= 0 \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 \end{pmatrix}, x^A = \begin{pmatrix} 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{14} + (x_{12} - 1)x_{34}}{x_{13}x_{34}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= 0 \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{(x_{12} - 1)x_{13}x_{34} + x_{14} + (x_{12}^2 - x_{12})x_{24}}{x_{12}x_{13}x_{24} + x_{13}^2x_{34}}, a_{35} = -\frac{x_{15} + (x_{12}^2 - x_{12})x_{25}}{x_{12}x_{13}x_{25}}, \\ a_{45} &= 0 \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 \end{pmatrix}, x^A = \begin{pmatrix} 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{14} + (x_{12} - 1)x_{34}}{x_{13}x_{34}}, a_{35} = -\frac{x_{15} + (x_{12}^2 - x_{12})x_{25}}{x_{12}x_{13}x_{25}}, \\ a_{45} &= 0 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = 0, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = -\frac{x_{15}}{x_{12}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = -\frac{x_{14} - x_{34}}{x_{12}x_{34}}, a_{25} = \frac{x_{14}x_{35}}{x_{12}x_{34}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = -\frac{x_{14} - x_{34}}{x_{12}x_{34}}, a_{25} = -\frac{x_{15}x_{34} - x_{14}x_{35}}{x_{12}x_{34}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{12}}{x_{13}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{12} + x_{15}}{x_{13}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{(x_{12} - 1)x_{13}x_{34} + x_{14}}{x_{13}^2x_{34}}, a_{35} = -\frac{x_{12}x_{34} - x_{14}x_{35}}{x_{13}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{(x_{12} - 1)x_{13}x_{34} + x_{14}}{x_{13}^2x_{34}}, a_{35} = \frac{x_{14}x_{35} - (x_{12} + x_{15})x_{34}}{x_{13}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 \end{pmatrix}, x^A = \begin{pmatrix} 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{35}}{x_{12}x_{25}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{x_{12}x_{25} - x_{15}}{x_{12}^2x_{25}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{35}}{x_{12}x_{25}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = -\frac{x_{14} - x_{34}}{x_{12}x_{34}}, a_{25} = \frac{x_{12}x_{25}x_{34} + x_{14}x_{35}}{x_{12}^2x_{25}x_{34}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{35}}{x_{12}x_{25}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = -\frac{x_{14} - x_{34}}{x_{12}x_{34}}, a_{25} = \frac{x_{14}x_{35} + (x_{12}x_{25} - x_{15})x_{34}}{x_{12}^2x_{25}x_{34}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{35}}{x_{12}x_{25}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}-1}{x_{13}}, a_{35} = -\frac{x_{12}-1}{x_{13}}, \\ a_{45} &= -\frac{x_{35}}{x_{12}x_{25}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}-1}{x_{13}}, a_{35} = -\frac{x_{15} + (x_{12}^2 - x_{12})x_{25}}{x_{12}x_{13}x_{25}}, \\ a_{45} &= -\frac{x_{35}}{x_{12}x_{25}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{12}x_{25}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{(x_{12}-1)x_{13}x_{34} + x_{14}}{x_{13}^2x_{34}}, a_{35} = -\frac{(x_{12}^2 - x_{12})x_{25}x_{34} - x_{14}x_{35}}{x_{12}x_{13}x_{25}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{12}x_{25}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{12}x_{25}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= -\frac{(x_{12}-1)x_{13}x_{34}+x_{14}}{x_{13}^2x_{34}}, a_{35} = \frac{x_{14}x_{35}-(x_{15}+(x_{12}^2-x_{12})x_{25})x_{34}}{x_{12}x_{13}x_{25}x_{34}}, \\
 a_{45} &= -\frac{x_{35}}{x_{12}x_{25}x_{34}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = -\frac{x_{34}}{x_{12}x_{24}x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{1}{x_{12}}, \\
 a_{34} &= 1, a_{35} = 1, \\
 a_{45} &= \frac{1}{x_{12}x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = -\frac{x_{34}}{x_{12}x_{24}x_{35}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{x_{12}x_{24}x_{35}+x_{15}x_{34}}{x_{12}^2x_{24}x_{35}}, \\
 a_{34} &= 1, a_{35} = 1, \\
 a_{45} &= \frac{1}{x_{12}x_{24}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = -\frac{x_{34}}{x_{12}x_{24}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{12}x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = -\frac{x_{34}}{x_{12}x_{24}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = \frac{x_{15}x_{34} + (x_{12}x_{24} - x_{14})x_{35}}{x_{12}^2x_{24}x_{35}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{12}x_{24}} \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = -\frac{x_{34}}{x_{12}x_{24}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= \frac{1}{x_{12}x_{24}} \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}-1}{x_{13}}, a_{35} = -\frac{x_{12}-1}{x_{13}}, \\ a_{45} &= -\frac{1}{x_{13}x_{34}} \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = -\frac{x_{34}}{x_{12}x_{24}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}-1}{x_{13}}, a_{35} = \frac{x_{15}x_{34} - (x_{12}^2 - x_{12})x_{24}x_{35}}{x_{12}x_{13}x_{24}x_{35}}, \\ a_{45} &= \frac{1}{x_{12}x_{24}} \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}-1}{x_{13}}, a_{35} = -\frac{(x_{12}-1)x_{13}x_{35} + x_{15}}{x_{13}^2x_{35}}, \\ a_{45} &= -\frac{1}{x_{13}x_{34}} \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = -\frac{x_{34}}{x_{12}x_{24}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{(x_{12} - 1)x_{13}x_{34} + x_{14} + (x_{12}^2 - x_{12})x_{24}}{x_{12}x_{13}x_{24} + x_{13}^2x_{34}}, a_{35} = -\frac{x_{14} + (x_{12}^2 - x_{12})x_{24}}{x_{12}x_{13}x_{24}}, \\ a_{45} &= \frac{1}{x_{12}x_{24}} \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{14} + (x_{12} - 1)x_{34}}{x_{13}x_{34}}, a_{35} = -\frac{(x_{12} - 1)x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, \\ a_{45} &= -\frac{1}{x_{13}x_{34}} \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = -\frac{x_{34}}{x_{12}x_{24}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{(x_{12} - 1)x_{13}x_{34} + x_{14} + (x_{12}^2 - x_{12})x_{24}}{x_{12}x_{13}x_{24} + x_{13}^2x_{34}}, a_{35} = \frac{x_{15}x_{34} - (x_{14} + (x_{12}^2 - x_{12})x_{24})x_{35}}{x_{12}x_{13}x_{24}x_{35}}, \\ a_{45} &= \frac{1}{x_{12}x_{24}} \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{14} + (x_{12} - 1)x_{34}}{x_{13}x_{34}}, a_{35} = -\frac{x_{15}x_{34} + ((x_{12} - 1)x_{13}x_{34} - x_{14})x_{35}}{x_{13}^2x_{34}x_{35}}, \\ a_{45} &= -\frac{1}{x_{13}x_{34}} \end{aligned}$$

First assume  $x_{25} \neq \frac{x_{24}x_{35}}{x_{34}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{x_{34}}{x_{12}x_{25}x_{34} - x_{12}x_{24}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{35}}{x_{12}x_{25}x_{34} - x_{12}x_{24}x_{35}} \end{aligned}$$

Now assume  $x_{25} = \frac{x_{24}x_{35}}{x_{34}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = 0, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

First assume  $x_{25} \neq \frac{x_{24}x_{35}}{x_{34}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{x_{34}}{x_{12}x_{25}x_{34} - x_{12}x_{24}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = -\frac{x_{12}x_{24}x_{35} - (x_{12}x_{25} - x_{15})x_{34}}{x_{12}^2x_{25}x_{34} - x_{12}^2x_{24}x_{35}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{35}}{x_{12}x_{25}x_{34} - x_{12}x_{24}x_{35}} \end{aligned}$$

Now assume  $x_{25} = \frac{x_{24}x_{35}}{x_{34}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = -\frac{x_{15}}{x_{12}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

First assume  $x_{25} \neq \frac{x_{24}x_{35}}{x_{34}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{x_{34}}{x_{12}x_{25}x_{34} - x_{12}x_{24}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = \frac{x_{12}x_{25}x_{34} - (x_{12}x_{24} - x_{14})x_{35}}{x_{12}^2x_{25}x_{34} - x_{12}^2x_{24}x_{35}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{35}}{x_{12}x_{25}x_{34} - x_{12}x_{24}x_{35}} \end{aligned}$$

Now assume  $x_{25} = \frac{x_{24}x_{35}}{x_{34}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = \frac{x_{14}x_{35}}{x_{12}x_{34}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

First assume  $x_{25} \neq \frac{x_{24}x_{35}}{x_{34}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{x_{34}}{x_{12}x_{25}x_{34} - x_{12}x_{24}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = \frac{(x_{12}x_{25} - x_{15})x_{34} - (x_{12}x_{24} - x_{14})x_{35}}{x_{12}^2x_{25}x_{34} - x_{12}^2x_{24}x_{35}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{35}}{x_{12}x_{25}x_{34} - x_{12}x_{24}x_{35}} \end{aligned}$$

Now assume  $x_{25} = \frac{x_{24}x_{35}}{x_{34}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = -\frac{x_{15}x_{34} - x_{14}x_{35}}{x_{12}x_{34}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$  and  $x_{24} \neq \frac{-x_{25}x_{34}}{x_{35}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = \frac{x_{34}}{x_{12}x_{25}x_{34} - x_{12}x_{24}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= -\frac{x_{35}}{x_{12}x_{25}x_{34} - x_{12}x_{24}x_{35}} \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$ ,  $x_{24} \neq \frac{-x_{25}x_{34}}{x_{35}}$  and  $x_{25} \neq \frac{-x_{13}x_{35}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{12}x_{25} + x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= -\frac{x_{35}}{x_{12}x_{25}x_{34} + x_{13}x_{34}x_{35}} \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$ ,  $x_{24} \neq \frac{-x_{25}x_{34}}{x_{35}}$  and  $x_{25} = \frac{-x_{13}x_{35}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{12}}{x_{13}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

Now assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$ ,  $x_{24} = \frac{-x_{25}x_{34}}{x_{35}}$  and  $x_{25} \neq \frac{-x_{13}x_{35}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{35}}{x_{12}x_{25} + x_{13}x_{35}}, d_4 = \frac{x_{35}}{x_{12}x_{25}x_{34} + x_{13}x_{34}x_{35}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{25}}{x_{12}x_{25} + x_{13}x_{35}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{12}}{x_{13}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

Now assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$ ,  $x_{24} = \frac{-x_{25}x_{34}}{x_{35}}$  and  $x_{25} = \frac{-x_{13}x_{35}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{12}}{x_{13}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$ ,  $x_{24} = \frac{-x_{25}x_{34}}{x_{35}}$  and  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{12}}{x_{13}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$  and  $x_{24} \neq \frac{-x_{25}x_{34}}{x_{35}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = \frac{x_{34}}{x_{12}x_{25}x_{34} - x_{12}x_{24}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = \frac{(x_{12}^2 - x_{12})x_{24}x_{35} - (x_{15} + (x_{12}^2 - x_{12})x_{25})x_{34}}{x_{12}x_{13}x_{25}x_{34} - x_{12}x_{13}x_{24}x_{35}}, \\ a_{45} &= -\frac{x_{35}}{x_{12}x_{25}x_{34} - x_{12}x_{24}x_{35}} \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}, x_{24} \neq \frac{-x_{25}x_{34}}{x_{35}}$  and  $x_{25} \neq \frac{-x_{13}x_{35}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{12}x_{25} + x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{(x_{12} - 1)x_{13}x_{35} + x_{15} + (x_{12}^2 - x_{12})x_{25}}{x_{12}x_{13}x_{25} + x_{13}^2x_{35}}, \\ a_{45} &= -\frac{x_{35}}{x_{12}x_{25}x_{34} + x_{13}x_{34}x_{35}} \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}, x_{24} \neq \frac{-x_{25}x_{34}}{x_{35}}$  and  $x_{25} = \frac{-x_{13}x_{35}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{12} + x_{15}}{x_{13}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

Now assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}, x_{24} = \frac{-x_{25}x_{34}}{x_{35}}$  and  $x_{25} \neq \frac{-x_{13}x_{35}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{35}}{x_{12}x_{25} + x_{13}x_{35}}, d_4 = \frac{x_{35}}{x_{12}x_{25}x_{34} + x_{13}x_{34}x_{35}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{25}}{x_{12}x_{25} + x_{13}x_{35}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{12} + x_{15}}{x_{13}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

Now assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$ ,  $x_{24} = \frac{-x_{25}x_{34}}{x_{35}}$  and  $x_{25} = \frac{-x_{13}x_{35}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12} - 1}{x_{13}}, a_{35} = -\frac{x_{12} + x_{15}}{x_{13}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$ ,  $x_{24} = \frac{-x_{25}x_{34}}{x_{35}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{25}}{x_{35}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{(x_{12} - 1)x_{35}}{x_{12}x_{25}}, a_{35} = \frac{(x_{12} + x_{15})x_{35}}{x_{12}x_{25}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$  and  $x_{25} \neq \frac{x_{24}x_{35}}{x_{34}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = \frac{x_{34}}{x_{12}x_{25}x_{34} - x_{12}x_{24}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{(x_{12} - 1)x_{13}x_{34} + x_{14} + (x_{12}^2 - x_{12})x_{24}}{x_{12}x_{13}x_{24} + x_{13}^2x_{34}}, a_{35} = -\frac{(x_{12}^2 - x_{12})x_{25}x_{34} - (x_{14} + (x_{12}^2 - x_{12})x_{24})x_{35}}{x_{12}x_{13}x_{25}x_{34} - x_{12}x_{13}x_{24}x_{35}}, \\ a_{45} &= -\frac{x_{35}}{x_{12}x_{25}x_{34} - x_{12}x_{24}x_{35}} \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$  and  $x_{25} \neq \frac{-x_{13}x_{35}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{12}x_{25} + x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{14} + (x_{12} - 1)x_{34}}{x_{13}x_{34}}, a_{35} = -\frac{(x_{12}^2 - x_{12})x_{25}x_{34} + ((x_{12} - 1)x_{13}x_{34} - x_{14})x_{35}}{x_{12}x_{13}x_{25}x_{34} + x_{13}^2x_{34}x_{35}}, \\ a_{45} &= -\frac{x_{35}}{x_{12}x_{25}x_{34} + x_{13}x_{34}x_{35}} \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$  and  $x_{25} = \frac{-x_{13}x_{35}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{14} + (x_{12} - 1)x_{34}}{x_{13}x_{34}}, a_{35} = -\frac{x_{12}x_{34} - x_{14}x_{35}}{x_{13}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

Now assume  $x_{25} = \frac{x_{24}x_{35}}{x_{34}}$  and  $x_{12} \neq \frac{-x_{13}x_{34}}{x_{24}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{(x_{12} - 1)x_{13}x_{34} + x_{14} + (x_{12}^2 - x_{12})x_{24}}{x_{12}x_{13}x_{24} + x_{13}^2x_{34}}, a_{35} = -\frac{x_{12}x_{34} - x_{14}x_{35}}{x_{13}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

Now assume  $x_{25} = \frac{x_{24}x_{35}}{x_{34}}$  and  $x_{12} = \frac{-x_{13}x_{34}}{x_{24}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = -\frac{x_{24}}{x_{13}x_{34}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34}^2 - x_{14}x_{24} + x_{24}x_{34}}{x_{13}x_{24}x_{34}}, a_{35} = \frac{x_{13}x_{34}^2 + x_{14}x_{24}x_{35}}{x_{13}x_{24}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$  and  $x_{24} \neq \frac{-x_{25}x_{34}}{x_{35}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = \frac{x_{34}}{x_{12}x_{25}x_{34} - x_{12}x_{24}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{(x_{12} - 1)x_{13}x_{34} + x_{14} + (x_{12}^2 - x_{12})x_{24}}{x_{12}x_{13}x_{24} + x_{13}^2x_{34}}, a_{35} = -\frac{(x_{15} + (x_{12}^2 - x_{12})x_{25})x_{34} - (x_{14} + (x_{12}^2 - x_{12})x_{24})x_{35}}{x_{12}x_{13}x_{25}x_{34} - x_{12}x_{13}x_{24}x_{35}}, \\ a_{45} &= -\frac{x_{35}}{x_{12}x_{25}x_{34} - x_{12}x_{24}x_{35}} \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$ ,  $x_{24} \neq \frac{-x_{25}x_{34}}{x_{35}}$  and  $x_{25} \neq \frac{-x_{13}x_{35}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{12}x_{25} + x_{13}x_{35}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{14} + (x_{12} - 1)x_{34}}{x_{13}x_{34}}, a_{35} = -\frac{(x_{15} + (x_{12}^2 - x_{12})x_{25})x_{34} + ((x_{12} - 1)x_{13}x_{34} - x_{14})x_{35}}{x_{12}x_{13}x_{25}x_{34} + x_{13}^2x_{34}x_{35}}, \\ a_{45} &= -\frac{x_{35}}{x_{12}x_{25}x_{34} + x_{13}x_{34}x_{35}} \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$ ,  $x_{24} \neq \frac{-x_{25}x_{34}}{x_{35}}$  and  $x_{25} = \frac{-x_{13}x_{35}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{14} + (x_{12} - 1)x_{34}}{x_{13}x_{34}}, a_{35} = \frac{x_{14}x_{35} - (x_{12} + x_{15})x_{34}}{x_{13}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

Now assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$ ,  $x_{24} = \frac{-x_{25}x_{34}}{x_{35}}$  and  $x_{25} \neq \frac{-x_{13}x_{35}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{35}}{x_{12}x_{25} + x_{13}x_{35}}, d_4 = \frac{x_{35}}{x_{12}x_{25}x_{34} + x_{13}x_{34}x_{35}}, d_5 = 1, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{25}}{x_{12}x_{25} + x_{13}x_{35}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{(x_{12}^2 - x_{12})x_{25}x_{34} + ((x_{12} - 1)x_{13}x_{34} + x_{14})x_{35}}{x_{12}x_{13}x_{25}x_{34} + x_{13}^2x_{34}x_{35}}, a_{35} = \frac{x_{14}x_{35} - (x_{12} + x_{15})x_{34}}{x_{13}x_{34}}, \\ a_{45} &= -\frac{x_{35}}{x_{34}} \end{aligned}$$

Now assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$ ,  $x_{24} = \frac{-x_{25}x_{34}}{x_{35}}$  and  $x_{25} = \frac{-x_{13}x_{35}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= -\frac{x_{14} + (x_{12} - 1)x_{34}}{x_{13}x_{34}}, a_{35} = \frac{x_{14}x_{35} - (x_{12} + x_{15})x_{34}}{x_{13}x_{34}}, \\
 a_{45} &= -\frac{x_{35}}{x_{34}}
 \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$ ,  $x_{25} = \frac{-x_{25}x_{34}}{x_{35}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = 1, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{25}}{x_{35}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{(x_{14} + (x_{12} - 1)x_{34})x_{35}}{x_{12}x_{25}x_{34}}, a_{35} = -\frac{x_{14}x_{35}^2 - (x_{12} + x_{15})x_{34}x_{35}}{x_{12}x_{25}x_{34}}, \\
 a_{45} &= -\frac{x_{35}}{x_{34}}
 \end{aligned}$$

#### APPENDIX P. SUBCASES OF $Y_{15}$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\
 a_{12} &= 0, a_{13} = 0, a_{14} = 0, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{1}{x_{23}}, a_{35} = \frac{1}{x_{23}}, \\
 a_{45} &= \frac{1}{x_{23}x_{34}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 0, a_{14} = \frac{1x_{15}}{x_{23}x_{34}x_{45}}, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{23}}, a_{35} = \frac{1}{x_{23}}, \\ a_{45} &= \frac{1}{x_{23}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = \frac{1x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1x_{23}x_{34}}{x_{14}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1x_{34}}{x_{14}}, a_{35} = \frac{1}{x_{23}}, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = \frac{1x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1x_{23}x_{34}x_{45} - 1x_{15}}{x_{14}x_{45}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1x_{23}x_{34}x_{45} - 1x_{15}}{x_{14}x_{23}x_{45}}, a_{35} = \frac{1}{x_{23}}, \\ a_{45} &= \frac{1x_{23}x_{34}x_{45} - 1x_{15}}{x_{14}x_{23}x_{34}x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}}{x_{13}}, a_{24} = \frac{x_{23}}{x_{13}}, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= \frac{1}{x_{13}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}}{x_{13}}, a_{24} = \frac{x_{23}x_{34}x_{45} - x_{15}}{x_{13}x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{x_{23}x_{34}x_{45} - x_{15}}{x_{13}x_{23}x_{34}x_{45}}, \\ a_{45} &= \frac{1}{x_{13}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{34}}, a_{24} = \frac{x_{13}x_{23}x_{34}^2 - x_{14}x_{23}x_{34} + x_{14}^2}{x_{13}^2x_{34}^2}, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = \frac{x_{13}x_{23}x_{34}^2 - x_{14}x_{23}x_{34} + x_{14}^2}{x_{13}^2x_{23}x_{34}^2}, \\ a_{45} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\
 a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{34}}, a_{24} = -\frac{x_{13}x_{15}x_{34} - (x_{13}x_{23}x_{34}^2 - x_{14}x_{23}x_{34} + x_{14}^2)x_{45}}{x_{13}^2x_{34}^2x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = -\frac{x_{13}x_{15}x_{34} - (x_{13}x_{23}x_{34}^2 - x_{14}x_{23}x_{34} + x_{14}^2)x_{45}}{x_{13}^2x_{23}x_{34}^2x_{45}}, \\
 a_{45} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}^2}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\
 a_{12} &= 0, a_{13} = 0, a_{14} = 0, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{1}{x_{23}}, a_{35} = \frac{x_{23}x_{34}x_{45} - x_{25}}{x_{23}^2x_{34}x_{45}}, \\
 a_{45} &= \frac{1}{x_{23}x_{34}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\
 a_{12} &= 0, a_{13} = 0, a_{14} = \frac{x_{15}}{x_{23}x_{34}x_{45}}, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{1}{x_{23}}, a_{35} = \frac{x_{23}x_{34}x_{45} - x_{25}}{x_{23}^2x_{34}x_{45}}, \\
 a_{45} &= \frac{1}{x_{23}x_{34}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}x_{34}}{x_{14}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{34}}{x_{14}}, a_{35} = \frac{x_{23}x_{34}x_{45} - x_{25}}{x_{23}^2x_{34}x_{45}}, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}x_{34}x_{45} - x_{15}}{x_{14}x_{45}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34}x_{45} - x_{15}}{x_{14}x_{23}x_{45}}, a_{35} = \frac{x_{23}x_{34}x_{45} - x_{25}}{x_{23}^2x_{34}x_{45}}, \\ a_{45} &= \frac{x_{23}x_{34}x_{45} - x_{15}}{x_{14}x_{23}x_{34}x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}}{x_{13}}, a_{24} = \frac{x_{23}^2x_{34}x_{45} + x_{13}x_{25}}{x_{13}x_{23}x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= \frac{1}{x_{13}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}}{x_{13}}, a_{24} = \frac{x_{23}^2x_{34}x_{45} - x_{15}x_{23} + x_{13}x_{25}}{x_{13}x_{23}x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{x_{23}x_{34}x_{45} - x_{15}}{x_{13}x_{23}x_{34}x_{45}}, \\ a_{45} &= \frac{1}{x_{13}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{34}}, a_{24} = \frac{x_{13}^2x_{25}x_{34} + (x_{13}x_{23}^2x_{34}^2 - x_{14}x_{23}^2x_{34} + x_{14}^2x_{23})x_{45}}{x_{13}^2x_{23}x_{34}^2x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = \frac{x_{13}x_{23}x_{34}^2 - x_{14}x_{23}x_{34} + x_{14}^2}{x_{13}^2x_{23}x_{34}^2}, \\ a_{45} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{34}}, a_{24} = -\frac{(x_{13}x_{15}x_{23} - x_{13}^2x_{25})x_{34} - (x_{13}x_{23}^2x_{34}^2 - x_{14}x_{23}^2x_{34} + x_{14}^2x_{23})x_{45}}{x_{13}^2x_{23}x_{34}^2x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = -\frac{x_{13}x_{15}x_{34} - (x_{13}x_{23}x_{34}^2 - x_{14}x_{23}x_{34} + x_{14}^2)x_{45}}{x_{13}^2x_{23}x_{34}^2x_{45}}, \\ a_{45} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 0, a_{14} = 0, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{23}^2x_{34}}, a_{35} = \frac{x_{23}^2x_{34}^2 - x_{23}x_{24}x_{34} + x_{24}^2}{x_{23}^3x_{34}^2}, \\ a_{45} &= \frac{x_{23}x_{34} - x_{24}}{x_{23}^2x_{34}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 0, a_{14} = \frac{x_{15}}{x_{23}x_{34}x_{45}}, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{23}^2x_{34}}, a_{35} = \frac{x_{23}^2x_{34}^2 - x_{23}x_{24}x_{34} + x_{24}^2}{x_{23}^3x_{34}^2}, \\ a_{45} &= \frac{x_{23}x_{34} - x_{24}}{x_{23}^2x_{34}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34}^2 + x_{14}x_{24}}{x_{14}x_{23}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{34}}{x_{14}}, a_{35} = \frac{x_{14} - x_{24}}{x_{14}x_{23}}, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\
 a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= -\frac{x_{15}x_{23}x_{34} - (x_{23}^2x_{34}^2 + x_{14}x_{24})x_{45}}{x_{14}x_{23}x_{34}x_{45}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{x_{23}x_{34}x_{45} - x_{15}}{x_{14}x_{23}x_{45}}, a_{35} = \frac{x_{15}x_{24} + (x_{14}x_{23} - x_{23}x_{24})x_{34}x_{45}}{x_{14}x_{23}^2x_{34}x_{45}}, \\
 a_{45} &= \frac{x_{23}x_{34}x_{45} - x_{15}}{x_{14}x_{23}x_{34}x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\
 a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{23}^2x_{34} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = \frac{x_{23}x_{34} + x_{24}}{x_{13}x_{34}}, a_{25} = 1, \\
 a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\
 a_{45} &= \frac{1}{x_{13}x_{34}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\
 a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{23}^2x_{34} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = -\frac{x_{15} - (x_{23}x_{34} + x_{24})x_{45}}{x_{13}x_{34}x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{x_{23}x_{34}x_{45} - x_{15}}{x_{13}x_{23}x_{34}x_{45}}, \\
 a_{45} &= \frac{1}{x_{13}x_{34}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34} - x_{14}x_{23} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = \frac{x_{13}x_{23}^2x_{34}^2 + x_{14}^2x_{23} - x_{13}x_{14}x_{24} - (x_{14}x_{23}^2 - x_{13}x_{23}x_{24})x_{34}}{x_{13}^2x_{23}x_{34}^2}, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = \frac{x_{13}x_{23}x_{34}^2 - x_{14}x_{23}x_{34} + x_{14}^2}{x_{13}^2x_{23}x_{34}^2}, \\ a_{45} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34} - x_{14}x_{23} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = -\frac{x_{13}x_{15}x_{23}x_{34} - (x_{13}x_{23}^2x_{34}^2 + x_{14}^2x_{23} - x_{13}x_{14}x_{24} - (x_{14}x_{23}^2 - x_{13}x_{23}x_{24})x_{34})x_{45}}{x_{13}^2x_{23}x_{34}^2x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = -\frac{x_{13}x_{15}x_{34} - (x_{13}x_{23}x_{34}^2 - x_{14}x_{23}x_{34} + x_{14}^2)x_{45}}{x_{13}^2x_{23}x_{34}^2x_{45}}, \\ a_{45} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 0, a_{14} = 0, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{23}^2x_{34}}, a_{35} = -\frac{x_{23}x_{25}x_{34} - (x_{23}^2x_{34}^2 - x_{23}x_{24}x_{34} + x_{24}^2)x_{45}}{x_{23}^3x_{34}^2x_{45}}, \\ a_{45} &= \frac{x_{23}x_{34} - x_{24}}{x_{23}^2x_{34}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 0, a_{14} = \frac{x_{15}}{x_{23}x_{34}x_{45}}, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{23}^2x_{34}}, a_{35} = -\frac{x_{23}x_{25}x_{34} - (x_{23}^2x_{34}^2 - x_{23}x_{24}x_{34} + x_{24}^2)x_{45}}{x_{23}^3x_{34}^2x_{45}}, \\ a_{45} &= \frac{x_{23}x_{34} - x_{24}}{x_{23}^2x_{34}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34}^2 + x_{14}x_{24}}{x_{14}x_{23}x_{34}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{34}}{x_{14}}, a_{35} = -\frac{x_{14}x_{25} - (x_{14}x_{23} - x_{23}x_{24})x_{34}x_{45}}{x_{14}x_{23}^2x_{34}x_{45}}, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{15}x_{23}x_{34} - (x_{23}^2x_{34}^2 + x_{14}x_{24})x_{45}}{x_{14}x_{23}x_{34}x_{45}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34}x_{45} - x_{15}}{x_{14}x_{23}x_{45}}, a_{35} = \frac{x_{15}x_{24} - x_{14}x_{25} + (x_{14}x_{23} - x_{23}x_{24})x_{34}x_{45}}{x_{14}x_{23}^2x_{34}x_{45}}, \\ a_{45} &= \frac{x_{23}x_{34}x_{45} - x_{15}}{x_{14}x_{23}x_{34}x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = \frac{x_{13}x_{25} + (x_{23}^2x_{34} + x_{23}x_{24})x_{45}}{x_{13}x_{23}x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= \frac{1}{x_{13}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = -\frac{x_{15}x_{23} - x_{13}x_{25} - (x_{23}^2x_{34} + x_{23}x_{24})x_{45}}{x_{13}x_{23}x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{x_{23}x_{34}x_{45} - x_{15}}{x_{13}x_{23}x_{34}x_{45}}, \\ a_{45} &= \frac{1}{x_{13}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34} - x_{14}x_{23} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = \frac{x_{13}^2x_{25}x_{34} + (x_{13}x_{23}^2x_{34}^2 + x_{14}^2x_{23} - x_{13}x_{14}x_{24} - (x_{14}x_{23}^2 - x_{13}x_{23}x_{24})x_{34})x_{45}}{x_{13}^2x_{23}x_{34}^2x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = \frac{x_{13}x_{23}x_{34}^2 - x_{14}x_{23}x_{34} + x_{14}^2}{x_{13}^2x_{23}x_{34}^2}, \\ a_{45} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\
 a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{23}^2x_{34} - x_{14}x_{23} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, \\
 a_{24} &= -\frac{(x_{13}x_{15}x_{23} - x_{13}^2x_{25})x_{34} - (x_{13}x_{23}^2x_{34}^2 + x_{14}^2x_{23} - x_{13}x_{14}x_{24} - (x_{14}x_{23}^2 - x_{13}x_{23}x_{24})x_{34})x_{45}}{x_{13}^2x_{23}x_{34}^2x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = -\frac{x_{13}x_{15}x_{34} - (x_{13}x_{23}x_{34}^2 - x_{14}x_{23}x_{34} + x_{14}^2)x_{45}}{x_{13}^2x_{23}x_{34}^2x_{45}}, \\
 a_{45} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}^2}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\
 a_{12} &= 0, a_{13} = 0, a_{14} = 0, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{1}{x_{23}}, a_{35} = \frac{1}{x_{23}}, \\
 a_{45} &= \frac{x_{34}x_{45} - x_{35}}{x_{23}x_{34}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 1 & 1 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\
 a_{12} &= 0, a_{13} = 0, a_{14} = \frac{x_{15}}{x_{23}x_{34}x_{45}}, a_{15} = 1, \\
 a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{1}{x_{23}}, a_{35} = \frac{1}{x_{23}}, \\
 a_{45} &= \frac{x_{34}x_{45} - x_{35}}{x_{23}x_{34}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}x_{34}^2x_{45} + x_{14}x_{35}}{x_{14}x_{34}x_{45}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34}^2x_{45} + x_{14}x_{35}}{x_{14}x_{23}x_{34}x_{45}}, a_{35} = \frac{1}{x_{23}}, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}x_{34}^2x_{45} - x_{15}x_{34} + x_{14}x_{35}}{x_{14}x_{34}x_{45}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34}^2x_{45} - x_{15}x_{34} + x_{14}x_{35}}{x_{14}x_{23}x_{34}x_{45}}, a_{35} = \frac{1}{x_{23}}, \\ a_{45} &= \frac{x_{23}x_{34}x_{45} - x_{15}}{x_{14}x_{23}x_{34}x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}}{x_{13}}, a_{24} = \frac{x_{23}}{x_{13}}, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= \frac{x_{23}x_{34}x_{45} - x_{13}x_{35}}{x_{13}x_{23}x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\
 a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{23}}{x_{13}}, a_{24} = \frac{x_{23}x_{34}x_{45} - x_{15}}{x_{13}x_{34}x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{x_{23}x_{34}x_{45} - x_{15}}{x_{13}x_{23}x_{34}x_{45}}, \\
 a_{45} &= \frac{x_{23}x_{34}x_{45} - x_{13}x_{35}}{x_{13}x_{23}x_{34}^2x_{45}} \\
 x &= \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}
 \end{aligned}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\
 a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{34}}, a_{24} = \frac{x_{13}x_{14}x_{35} + (x_{13}x_{23}x_{34}^2 - x_{14}x_{23}x_{34} + x_{14}^2)x_{45}}{x_{13}^2x_{34}^2x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = \frac{x_{13}x_{14}x_{35} + (x_{13}x_{23}x_{34}^2 - x_{14}x_{23}x_{34} + x_{14}^2)x_{45}}{x_{13}^2x_{23}x_{34}^2x_{45}}, \\
 a_{45} &= -\frac{x_{13}x_{35} - (x_{23}x_{34} - x_{14})x_{45}}{x_{13}x_{23}x_{34}^2x_{45}} \\
 x &= \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}
 \end{aligned}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\
 a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{34}}, a_{24} = -\frac{x_{13}x_{15}x_{34} - x_{13}x_{14}x_{35} - (x_{13}x_{23}x_{34}^2 - x_{14}x_{23}x_{34} + x_{14}^2)x_{45}}{x_{13}^2x_{34}^2x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = -\frac{x_{13}x_{15}x_{34} - x_{13}x_{14}x_{35} - (x_{13}x_{23}x_{34}^2 - x_{14}x_{23}x_{34} + x_{14}^2)x_{45}}{x_{13}^2x_{23}x_{34}^2x_{45}}, \\
 a_{45} &= -\frac{x_{13}x_{35} - (x_{23}x_{34} - x_{14})x_{45}}{x_{13}x_{23}x_{34}^2x_{45}} \\
 x &= \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}
 \end{aligned}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 0, a_{14} = 0, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{23}}, a_{35} = \frac{x_{23}x_{34}x_{45} - x_{25}}{x_{23}^2x_{34}x_{45}}, \\ a_{45} &= \frac{x_{34}x_{45} - x_{35}}{x_{23}x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 0, a_{14} = \frac{1x_{15}}{x_{23}x_{34}x_{45}}, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{23}}, a_{35} = \frac{1x_{23}x_{34}x_{45} - 1x_{25}}{x_{23}^2x_{34}x_{45}}, \\ a_{45} &= \frac{1x_{34}x_{45} - 1x_{35}}{x_{23}x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}x_{34}^2x_{45} + x_{14}x_{35}}{x_{14}x_{34}x_{45}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34}^2x_{45} + x_{14}x_{35}}{x_{14}x_{23}x_{34}x_{45}}, a_{35} = \frac{x_{23}x_{34}x_{45} - x_{25}}{x_{23}^2x_{34}x_{45}}, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\
 a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{23}x_{34}^2x_{45} - x_{15}x_{34} + x_{14}x_{35}}{x_{14}x_{34}x_{45}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= \frac{x_{23}x_{34}^2x_{45} - x_{15}x_{34} + x_{14}x_{35}}{x_{14}x_{23}x_{34}x_{45}}, a_{35} = \frac{x_{23}x_{34}x_{45} - x_{25}}{x_{23}^2x_{34}x_{45}}, \\
 a_{45} &= \frac{x_{23}x_{34}x_{45} - x_{15}}{x_{14}x_{23}x_{34}x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\
 a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{23}}{x_{13}}, a_{24} = \frac{x_{23}^2x_{34}x_{45} + x_{13}x_{25}}{x_{13}x_{23}x_{34}x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\
 a_{45} &= \frac{x_{23}x_{34}x_{45} - x_{13}x_{35}}{x_{13}x_{23}x_{34}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\
 a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{23}}{x_{13}}, a_{24} = \frac{x_{23}^2x_{34}x_{45} - x_{15}x_{23} + x_{13}x_{25}}{x_{13}x_{23}x_{34}x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{x_{23}x_{34}x_{45} - x_{15}}{x_{13}x_{23}x_{34}x_{45}}, \\
 a_{45} &= \frac{x_{23}x_{34}x_{45} - x_{13}x_{35}}{x_{13}x_{23}x_{34}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$



Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{34}}, a_{24} = \frac{x_{13}^2x_{25}x_{34} + x_{13}x_{14}x_{23}x_{35} + (x_{13}x_{23}^2x_{34}^2 - x_{14}x_{23}^2x_{34} + x_{14}^2x_{23})x_{45}}{x_{13}^2x_{23}x_{34}^2x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = \frac{x_{13}x_{14}x_{35} + (x_{13}x_{23}x_{34}^2 - x_{14}x_{23}x_{34} + x_{14}^2)x_{45}}{x_{13}^2x_{23}x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{13}x_{35} - (x_{23}x_{34} - x_{14})x_{45}}{x_{13}x_{23}x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{34}}, a_{24} = \frac{x_{13}x_{14}x_{23}x_{35} - (x_{13}x_{15}x_{23} - x_{13}^2x_{25})x_{34} + (x_{13}x_{23}^2x_{34}^2 - x_{14}x_{23}^2x_{34} + x_{14}^2x_{23})x_{45}}{x_{13}^2x_{23}x_{34}^2x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = -\frac{x_{13}x_{15}x_{34} - x_{13}x_{14}x_{35} - (x_{13}x_{23}x_{34}^2 - x_{14}x_{23}x_{34} + x_{14}^2)x_{45}}{x_{13}^2x_{23}x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{13}x_{35} - (x_{23}x_{34} - x_{14})x_{45}}{x_{13}x_{23}x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 0, a_{14} = 0, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{23}^2x_{34}}, a_{35} = \frac{x_{23}x_{24}x_{35} + (x_{23}^2x_{34}^2 - x_{23}x_{24}x_{34} + x_{24}^2)x_{45}}{x_{23}^3x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{23}x_{35} - (x_{23}x_{34} - x_{24})x_{45}}{x_{23}^2x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 0, a_{14} = \frac{x_{15}}{x_{23}x_{34}x_{45}}, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{23}^2x_{34}}, a_{35} = \frac{x_{23}x_{24}x_{35} + (x_{23}^2x_{34}^2 - x_{23}x_{24}x_{34} + x_{24}^2)x_{45}}{x_{23}^3x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{23}x_{35} - (x_{23}x_{34} - x_{24})x_{45}}{x_{23}^2x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{14}x_{23}x_{35} + (x_{23}^2x_{34}^2 + x_{14}x_{24})x_{45}}{x_{14}x_{23}x_{34}x_{45}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34}^2x_{45} + x_{14}x_{35}}{x_{14}x_{23}x_{34}x_{45}}, a_{35} = \frac{x_{14} - x_{24}}{x_{14}x_{23}}, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{15}x_{23}x_{34} - x_{14}x_{23}x_{35} - (x_{23}^2x_{34}^2 + x_{14}x_{24})x_{45}}{x_{14}x_{23}x_{34}x_{45}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34}^2x_{45} - x_{15}x_{34} + x_{14}x_{35}}{x_{14}x_{23}x_{34}x_{45}}, a_{35} = \frac{x_{15}x_{24} + (x_{14}x_{23} - x_{23}x_{24})x_{34}x_{45}}{x_{14}x_{23}^2x_{34}x_{45}}, \\ a_{45} &= \frac{x_{23}x_{34}x_{45} - x_{15}}{x_{14}x_{23}x_{34}x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = -\frac{x_{13}x_{24}x_{35} - (x_{23}^2x_{34}^2 + x_{23}x_{24}x_{34})x_{45}}{x_{13}x_{23}x_{34}^2x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= \frac{x_{23}x_{34}x_{45} - x_{13}x_{35}}{x_{13}x_{23}x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = -\frac{x_{15}x_{23}x_{34} + x_{13}x_{24}x_{35} - (x_{23}^2x_{34}^2 + x_{23}x_{24}x_{34})x_{45}}{x_{13}x_{23}x_{34}^2x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{x_{23}x_{34}x_{45} - x_{15}}{x_{13}x_{23}x_{34}x_{45}}, \\ a_{45} &= \frac{x_{23}x_{34}x_{45} - x_{13}x_{35}}{x_{13}x_{23}x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34} - x_{14}x_{23} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, \\ a_{24} &= \frac{(x_{13}x_{14}x_{23} - x_{13}^2x_{24})x_{35} + (x_{13}x_{23}^2x_{34}^2 + x_{14}^2x_{23} - x_{13}x_{14}x_{24} - (x_{14}x_{23}^2 - x_{13}x_{23}x_{24})x_{34})x_{45}}{x_{13}^2x_{23}x_{34}^2x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = \frac{x_{13}x_{14}x_{35} + (x_{13}x_{23}x_{34}^2 - x_{14}x_{23}x_{34} + x_{14}^2)x_{45}}{x_{13}^2x_{23}x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{13}x_{35} - (x_{23}x_{34} - x_{14})x_{45}}{x_{13}x_{23}x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 0 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34} - x_{14}x_{23} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, \\ a_{24} &= -\frac{x_{13}x_{15}x_{23}x_{34} - (x_{13}x_{14}x_{23} - x_{13}^2x_{24})x_{35} - (x_{13}x_{23}^2x_{34}^2 + x_{14}^2x_{23} - x_{13}x_{14}x_{24} - (x_{14}x_{23}^2 - x_{13}x_{23}x_{24})x_{34})x_{45}}{x_{13}^2x_{23}x_{34}^2x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = -\frac{x_{13}x_{15}x_{34} - x_{13}x_{14}x_{35} - (x_{13}x_{23}x_{34}^2 - x_{14}x_{23}x_{34} + x_{14}^2)x_{45}}{x_{13}^2x_{23}x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{13}x_{35} - (x_{23}x_{34} - x_{14})x_{45}}{x_{13}x_{23}x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 0, a_{14} = 0, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{23}^2x_{34}}, a_{35} = -\frac{x_{23}x_{25}x_{34} - x_{23}x_{24}x_{35} - (x_{23}^2x_{34}^2 - x_{23}x_{24}x_{34} + x_{24}^2)x_{45}}{x_{23}^3x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{23}x_{35} - (x_{23}x_{34} - x_{24})x_{45}}{x_{23}^2x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = 0, a_{14} = \frac{x_{15}}{x_{23}x_{34}x_{45}}, a_{15} = 1, \\ a_{23} &= 1, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{24}}{x_{23}^2x_{34}}, a_{35} = -\frac{x_{23}x_{25}x_{34} - x_{23}x_{24}x_{35} - (x_{23}^2x_{34}^2 - x_{23}x_{24}x_{34} + x_{24}^2)x_{45}}{x_{23}^3x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{23}x_{35} - (x_{23}x_{34} - x_{24})x_{45}}{x_{23}^2x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{14}x_{23}x_{35} + (x_{23}^2x_{34}^2 + x_{14}x_{24})x_{45}}{x_{14}x_{23}x_{34}x_{45}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34}^2x_{45} + x_{14}x_{35}}{x_{14}x_{23}x_{34}x_{45}}, a_{35} = -\frac{x_{14}x_{25} - (x_{14}x_{23} - x_{23}x_{24})x_{34}x_{45}}{x_{14}x_{23}^2x_{34}x_{45}}, \\ a_{45} &= \frac{1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & 0 & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= 0, a_{13} = \frac{x_{14}}{x_{23}x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{15}x_{23}x_{34} - x_{14}x_{23}x_{35} - (x_{23}^2x_{34}^2 + x_{14}x_{24})x_{45}}{x_{14}x_{23}x_{34}x_{45}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34}^2x_{45} - x_{15}x_{34} + x_{14}x_{35}}{x_{14}x_{23}x_{34}x_{45}}, a_{35} = \frac{x_{15}x_{24} - x_{14}x_{25} + (x_{14}x_{23} - x_{23}x_{24})x_{34}x_{45}}{x_{14}x_{23}^2x_{34}x_{45}}, \\ a_{45} &= \frac{x_{23}x_{34}x_{45} - x_{15}}{x_{14}x_{23}x_{34}x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = \frac{x_{13}x_{25}x_{34} - x_{13}x_{24}x_{35} + (x_{23}^2x_{34}^2 + x_{23}x_{24}x_{34})x_{45}}{x_{13}x_{23}x_{34}^2x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{1}{x_{13}}, \\ a_{45} &= \frac{x_{23}x_{34}x_{45} - x_{13}x_{35}}{x_{13}x_{23}x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & 0 & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{24} = -\frac{x_{13}x_{24}x_{35} + (x_{15}x_{23} - x_{13}x_{25})x_{34} - (x_{23}^2x_{34}^2 + x_{23}x_{24}x_{34})x_{45}}{x_{13}x_{23}x_{34}^2x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = \frac{x_{23}x_{34}x_{45} - x_{15}}{x_{13}x_{23}x_{34}x_{45}}, \\ a_{45} &= \frac{x_{23}x_{34}x_{45} - x_{13}x_{35}}{x_{13}x_{23}x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & 0 \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\ a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{23}^2x_{34} - x_{14}x_{23} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, \\ a_{24} &= \frac{x_{13}^2x_{25}x_{34} + (x_{13}x_{14}x_{23} - x_{13}^2x_{24})x_{35} + (x_{13}x_{23}^2x_{34}^2 + x_{14}^2x_{23} - x_{13}x_{14}x_{24} - (x_{14}x_{23}^2 - x_{13}x_{23}x_{24})x_{34})x_{45}}{x_{13}^2x_{23}x_{34}^2x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = \frac{x_{13}x_{14}x_{35} + (x_{13}x_{23}x_{34}^2 - x_{14}x_{23}x_{34} + x_{14}^2)x_{45}}{x_{13}^2x_{23}x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{13}x_{35} - (x_{23}x_{34} - x_{14})x_{45}}{x_{13}x_{23}x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & 0 & x_{13} & x_{14} & x_{15} \\ 0 & 1 & x_{23} & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = 1, d_3 = \frac{1}{x_{23}}, d_4 = \frac{1}{x_{23}x_{34}}, d_5 = \frac{1}{x_{23}x_{34}x_{45}}, \\
 a_{12} &= \frac{x_{13}}{x_{23}}, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{23}^2x_{34} - x_{14}x_{23} + x_{13}x_{24}}{x_{13}x_{23}x_{34}}, a_{25} = 1, \\
 a_{24} &= -\frac{(x_{13}x_{15}x_{23} - x_{13}^2x_{25})x_{34} - (x_{13}x_{14}x_{23} - x_{13}^2x_{24})x_{35} - (x_{13}x_{23}^2x_{34}^2 + x_{14}^2x_{23} - x_{13}x_{14}x_{24} - (x_{14}x_{23}^2 - x_{13}x_{23}x_{24})x_{34})x_{45}}{x_{13}^2x_{23}x_{34}^2x_{45}}, \\
 a_{34} &= \frac{x_{23}x_{34} - x_{14}}{x_{13}x_{23}x_{34}}, a_{35} = -\frac{x_{13}x_{15}x_{34} - x_{13}x_{14}x_{35} - (x_{13}x_{23}x_{34}^2 - x_{14}x_{23}x_{34} + x_{14}^2)x_{45}}{x_{13}^2x_{23}x_{34}^2x_{45}}, \\
 a_{45} &= -\frac{x_{13}x_{35} - (x_{23}x_{34} - x_{14})x_{45}}{x_{13}x_{23}x_{34}^2x_{45}}
 \end{aligned}$$

#### APPENDIX Q. SUBCASES OF $Y_{16}$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\
 a_{12} &= 1, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = 0, a_{25} = \frac{1}{x_{12}}, \\
 a_{34} &= 1, a_{35} = 1, \\
 a_{45} &= \frac{1}{x_{34}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\
 a_{12} &= 1, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = 0, a_{25} = \frac{x_{34}x_{45} - x_{15}}{x_{12}x_{34}x_{45}}, \\
 a_{34} &= 1, a_{35} = 1, \\
 a_{45} &= \frac{1}{x_{34}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\ a_{34} &= -\frac{(x_{12} - 1)x_{34}}{x_{14}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{12} - 1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\ a_{34} &= -\frac{(x_{12} - 1)x_{34}x_{45} + x_{15}}{x_{14}x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{(x_{12} - 1)x_{34}x_{45} + x_{15}}{x_{14}x_{34}x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= \frac{1}{x_{13}x_{34}} \end{aligned}$$



$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = -\frac{(x_{12} - 2)x_{13}x_{34}x_{45} + x_{15}}{x_{13}^2x_{34}x_{45}}, \\ a_{45} &= \frac{1}{x_{13}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = -\frac{(x_{12} - 1)x_{13}^2x_{34}^2 + x_{13}x_{14}x_{34} - x_{14}^2}{x_{13}^3x_{34}^2}, \\ a_{45} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = -\frac{x_{13}x_{15}x_{34} + ((x_{12} - 1)x_{13}^2x_{34}^2 + x_{13}x_{14}x_{34} - x_{14}^2)x_{45}}{x_{13}^3x_{34}^2x_{45}}, \\ a_{45} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{12}x_{25}}{x_{34}x_{45}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{34}x_{45}}, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{12}x_{25}}{x_{34}x_{45}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{34}x_{45}}, a_{25} = \frac{x_{34}x_{45} - x_{15}}{x_{12}x_{34}x_{45}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{12}x_{25} + x_{14}x_{45}}{x_{34}x_{45}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= -\frac{(x_{12} - 1)x_{34}}{x_{14}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{12} - 1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{12}x_{25} + x_{14}x_{45}}{x_{34}x_{45}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= -\frac{(x_{12} - 1)x_{34}x_{45} + x_{15}}{x_{14}x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{(x_{12} - 1)x_{34}x_{45} + x_{15}}{x_{14}x_{34}x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{13}x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34}x_{45} - x_{12}x_{25}}{x_{13}^2x_{34}x_{45}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= \frac{x_{13}x_{34}x_{45} - x_{12}x_{25}}{x_{13}^2x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{13}x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34}x_{45} - x_{12}x_{25}}{x_{13}^2x_{34}x_{45}}, a_{35} = -\frac{(x_{12} - 1)x_{13}x_{34}x_{45} + x_{15}}{x_{13}^2x_{34}x_{45}}, \\ a_{45} &= \frac{x_{13}x_{34}x_{45} - x_{12}x_{25}}{x_{13}^2x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{13}x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}x_{25} - (x_{13}x_{34} - x_{14})x_{45}}{x_{13}^2x_{34}x_{45}}, a_{35} = \frac{x_{12}x_{14}x_{25} - ((x_{12} - 1)x_{13}^2x_{34}^2 + x_{13}x_{14}x_{34} - x_{14}^2)x_{45}}{x_{13}^3x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{12}x_{25} - (x_{13}x_{34} - x_{14})x_{45}}{x_{13}^2x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{13}x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}x_{25} - (x_{13}x_{34} - x_{14})x_{45}}{x_{13}^2x_{34}x_{45}}, a_{35} = \frac{x_{12}x_{14}x_{25} - x_{13}x_{15}x_{34} - ((x_{12} - 1)x_{13}^2x_{34}^2 + x_{13}x_{14}x_{34} - x_{14}^2)x_{45}}{x_{13}^3x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{12}x_{25} - (x_{13}x_{34} - x_{14})x_{45}}{x_{13}^2x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= \frac{x_{34}}{x_{12}x_{24}}, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{12}x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{x_{12}x_{24}x_{45} - x_{15}}{x_{12}^2x_{24}x_{45}}, \\ a_{34} &= \frac{x_{34}}{x_{12}x_{24}}, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{12}x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = \frac{x_{12}^2x_{24}^2 - x_{12}x_{14}x_{24} + x_{14}^2}{x_{12}^3x_{24}^2}, \\ a_{34} &= \frac{(x_{12}x_{24} - x_{14})x_{34}}{x_{12}^2x_{24}^2}, a_{35} = 1, \\ a_{45} &= \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = -\frac{x_{12}x_{15}x_{24} - (x_{12}^2x_{24}^2 - x_{12}x_{14}x_{24} + x_{14}^2)x_{45}}{x_{12}^3x_{24}^2x_{45}}, \\ a_{34} &= \frac{(x_{12}x_{24} - x_{14})x_{34}}{x_{12}^2x_{24}^2}, a_{35} = 1, \\ a_{45} &= \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}^2} \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = \frac{1}{(x_{12}x_{24} + x_{13}x_{34})x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{25} = 1, \\ a_{34} &= \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= \frac{1}{x_{12}x_{24} + x_{13}x_{34}} \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}}{x_{13}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= -\frac{x_{12}}{x_{13}x_{34}} \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = \frac{1}{(x_{12}x_{24} + x_{13}x_{34})x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{25} = 1, \\ a_{34} &= \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, a_{35} = -\frac{x_{15} + ((x_{12} - 1)x_{13}x_{34} + (x_{12}^2 - x_{12})x_{24})x_{45}}{(x_{12}x_{13}x_{24} + x_{13}^2x_{34})x_{45}}, \\ a_{45} &= \frac{1}{x_{12}x_{24} + x_{13}x_{34}} \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}}{x_{13}}, a_{35} = -\frac{(x_{12} - 1)x_{34}x_{45} + x_{15}}{x_{13}x_{34}x_{45}}, \\ a_{45} &= -\frac{x_{12}}{x_{13}x_{34}} \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = \frac{1}{(x_{12}x_{24} + x_{13}x_{34})x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = \frac{x_{12}x_{24}^2 + x_{13}x_{24}x_{34} - x_{14}x_{24}}{x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2}, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34}^2 + (x_{12}x_{24} - x_{14})x_{34}}{x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2}, \\ a_{35} &= -\frac{(x_{12} - 1)x_{13}^2x_{34}^2 + x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - x_{12}^2)x_{24}^2 + (x_{13}x_{14} + 2(x_{12}^2 - x_{12})x_{13}x_{24})x_{34}}{x_{12}^2x_{13}x_{24}^2 + 2x_{12}x_{13}^2x_{24}x_{34} + x_{13}^3x_{34}^2}, \\ a_{45} &= \frac{x_{12}x_{24} + x_{13}x_{34} - x_{14}}{x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2} \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}}{x_{13}}, a_{35} = \frac{x_{12}x_{14} - (x_{12} - 1)x_{13}x_{34}}{x_{13}^2x_{34}}, \\ a_{45} &= -\frac{x_{12}}{x_{13}x_{34}} \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = \frac{1}{(x_{12}x_{24} + x_{13}x_{34})x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = \frac{x_{12}x_{24}^2 + x_{13}x_{24}x_{34} - x_{14}x_{24}}{x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2}, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34}^2 + (x_{12}x_{24} - x_{14})x_{34}}{x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2}, \\ a_{35} &= -\frac{x_{12}x_{15}x_{24} + x_{13}x_{15}x_{34} + ((x_{12} - 1)x_{13}^2x_{34}^2 + x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - x_{12}^2)x_{24}^2 + (x_{13}x_{14} + 2(x_{12}^2 - x_{12})x_{13}x_{24})x_{34})x_{45}}{(x_{12}^2x_{13}x_{24}^2 + 2x_{12}x_{13}^2x_{24}x_{34} + x_{13}^3x_{34}^2)x_{45}}, \\ a_{45} &= \frac{x_{12}x_{24} + x_{13}x_{34} - x_{14}}{x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2} \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}}{x_{13}}, a_{35} = -\frac{x_{13}x_{15} - (x_{12}x_{14} - (x_{12} - 1)x_{13}x_{34})x_{45}}{x_{13}^2x_{34}x_{45}}, \\ a_{45} &= -\frac{x_{12}}{x_{13}x_{34}} \end{aligned}$$



$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= \frac{x_{24}x_{34}x_{45} - x_{25}x_{34}}{x_{12}x_{24}^2x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{x_{24}x_{45} - x_{25}}{x_{12}x_{24}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{x_{12}x_{24}x_{45} - x_{15}}{x_{12}^2x_{24}x_{45}}, \\ a_{34} &= \frac{x_{24}x_{34}x_{45} - x_{25}x_{34}}{x_{12}x_{24}^2x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{x_{24}x_{45} - x_{25}}{x_{12}x_{24}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = \frac{x_{12}x_{14}x_{25} + (x_{12}^2x_{24}^2 - x_{12}x_{14}x_{24} + x_{14}^2)x_{45}}{x_{12}^3x_{24}^2x_{45}}, \\ a_{34} &= -\frac{x_{12}x_{25}x_{34} - (x_{12}x_{24} - x_{14})x_{34}x_{45}}{x_{12}^2x_{24}^2x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{12}x_{25} - (x_{12}x_{24} - x_{14})x_{45}}{x_{12}^2x_{24}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = -\frac{x_{12}x_{15}x_{24} - x_{12}x_{14}x_{25} - (x_{12}^2x_{24}^2 - x_{12}x_{14}x_{24} + x_{14}^2)x_{45}}{x_{12}^3x_{24}^2x_{45}}, \\ a_{34} &= -\frac{x_{12}x_{25}x_{34} - (x_{12}x_{24} - x_{14})x_{34}x_{45}}{x_{12}^2x_{24}^2x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{12}x_{25} - (x_{12}x_{24} - x_{14})x_{45}}{x_{12}^2x_{24}^2x_{45}} \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = \frac{1}{(x_{12}x_{24} + x_{13}x_{34})x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = \frac{x_{13}x_{25}x_{34} + (x_{12}x_{24}^2 + x_{13}x_{24}x_{34})x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}x_{25}x_{34} - (x_{12}x_{24}x_{34} + x_{13}x_{34}^2)x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= -\frac{x_{12}x_{25} - (x_{12}x_{24} + x_{13}x_{34})x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}} \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{12}x_{25}}{x_{34}x_{45}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}x_{34}x_{45} - x_{12}x_{25}}{x_{13}x_{34}x_{45}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= -\frac{x_{12}x_{34}x_{45} - x_{12}x_{25}}{x_{13}x_{34}^2x_{45}} \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = \frac{1}{(x_{12}x_{24} + x_{13}x_{34})x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = \frac{x_{13}x_{25}x_{34} + (x_{12}x_{24}^2 + x_{13}x_{24}x_{34})x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}x_{25}x_{34} - (x_{12}x_{24}x_{34} + x_{13}x_{34}^2)x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}}, a_{35} = -\frac{x_{15} + ((x_{12} - 1)x_{13}x_{34} + (x_{12}^2 - x_{12})x_{24})x_{45}}{(x_{12}x_{13}x_{24} + x_{13}^2x_{34})x_{45}}, \\ a_{45} &= -\frac{x_{12}x_{25} - (x_{12}x_{24} + x_{13}x_{34})x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}} \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{12}x_{25}}{x_{34}x_{45}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}x_{34}x_{45} - x_{12}x_{25}}{x_{13}x_{34}x_{45}}, a_{35} = -\frac{(x_{12} - 1)x_{34}x_{45} + x_{15}}{x_{13}x_{34}x_{45}}, \\ a_{45} &= -\frac{x_{12}x_{34}x_{45} - x_{12}x_{25}}{x_{13}x_{34}^2x_{45}} \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = \frac{1}{(x_{12}x_{24} + x_{13}x_{34})x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = \frac{x_{13}x_{25}x_{34} + (x_{12}x_{24}^2 + x_{13}x_{24}x_{34} - x_{14}x_{24})x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}}, a_{25} = 1, \\
 a_{34} &= -\frac{x_{12}x_{25}x_{34} - (x_{13}x_{34}^2 + (x_{12}x_{24} - x_{14})x_{34})x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}}, \\
 a_{35} &= \frac{x_{12}x_{14}x_{25} - ((x_{12} - 1)x_{13}^2x_{34}^2 + x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - x_{12}^2)x_{24}^2 + (x_{13}x_{14} + 2(x_{12}^2 - x_{12})x_{13}x_{24})x_{34})x_{45}}{(x_{12}^2x_{13}x_{24}^2 + 2x_{12}x_{13}^2x_{24}x_{34} + x_{13}^3x_{34}^2)x_{45}}, \\
 a_{45} &= -\frac{x_{12}x_{25} - (x_{12}x_{24} + x_{13}x_{34} - x_{14})x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}}
 \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\
 a_{12} &= 1, a_{13} = \frac{x_{12}x_{25} + x_{14}x_{45}}{x_{34}x_{45}}, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= -\frac{x_{12}x_{34}x_{45} - x_{12}x_{25}}{x_{13}x_{34}x_{45}}, a_{35} = -\frac{x_{12}x_{14}x_{25} - (x_{12}x_{14}x_{34} - (x_{12} - 1)x_{13}x_{34}^2)x_{45}}{x_{13}^2x_{34}^2x_{45}}, \\
 a_{45} &= -\frac{x_{12}x_{34}x_{45} - x_{12}x_{25}}{x_{13}x_{34}^2x_{45}}
 \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = \frac{1}{(x_{12}x_{24} + x_{13}x_{34})x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = \frac{x_{13}x_{25}x_{34} + (x_{12}x_{24}^2 + x_{13}x_{24}x_{34} - x_{14}x_{24})x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}}, a_{25} = 1, \\
 a_{34} &= -\frac{x_{12}x_{25}x_{34} - (x_{13}x_{34}^2 + (x_{12}x_{24} - x_{14})x_{34})x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}}, \\
 a_{35} &= -\frac{x_{12}x_{15}x_{24} - x_{12}x_{14}x_{25} + x_{13}x_{15}x_{34} + ((x_{12} - 1)x_{13}^2x_{34}^2 + x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - x_{12}^2)x_{24}^2 + (x_{13}x_{14} + 2(x_{12}^2 - x_{12})x_{13}x_{24})x_{34})x_{45}}{(x_{12}^2x_{13}x_{24}^2 + 2x_{12}x_{13}^2x_{24}x_{34} + x_{13}^3x_{34}^2)x_{45}}, \\
 a_{45} &= -\frac{x_{12}x_{25} - (x_{12}x_{24} + x_{13}x_{34} - x_{14})x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}}
 \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & 0 \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\
 a_{12} &= 1, a_{13} = \frac{x_{12}x_{25} + x_{14}x_{45}}{x_{34}x_{45}}, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= -\frac{x_{12}x_{34}x_{45} - x_{12}x_{25}}{x_{13}x_{34}x_{45}}, a_{35} = -\frac{x_{12}x_{14}x_{25} + x_{13}x_{15}x_{34} - (x_{12}x_{14}x_{34} - (x_{12} - 1)x_{13}x_{34}^2)x_{45}}{x_{13}^2x_{34}^2x_{45}}, \\
 a_{45} &= -\frac{x_{12}x_{34}x_{45} - x_{12}x_{25}}{x_{13}x_{34}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\
 a_{12} &= 1, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= 0, a_{24} = 0, a_{25} = \frac{1}{x_{12}}, \\
 a_{34} &= 1, a_{35} = 1, \\
 a_{45} &= \frac{x_{34}x_{45} - x_{35}}{x_{34}^2x_{45}}
 \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 1 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 0, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = \frac{x_{34}x_{45} - x_{15}}{x_{12}x_{34}x_{45}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= \frac{x_{34}x_{45} - x_{35}}{x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\ a_{34} &= -\frac{(x_{12} - 1)x_{34}^2x_{45} - x_{14}x_{35}}{x_{14}x_{34}x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{12} - 1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{14}}{x_{34}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\ a_{34} &= -\frac{(x_{12} - 1)x_{34}^2x_{45} + x_{15}x_{34} - x_{14}x_{35}}{x_{14}x_{34}x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{(x_{12} - 1)x_{34}x_{45} + x_{15}}{x_{14}x_{34}x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= \frac{x_{34}x_{45} - x_{35}}{x_{13}x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{1}{x_{13}}, a_{35} = -\frac{(x_{12} - 1)x_{13}x_{34}x_{45} + x_{15}}{x_{13}^2x_{34}x_{45}}, \\ a_{45} &= \frac{x_{34}x_{45} - x_{35}}{x_{13}x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = \frac{x_{13}x_{14}x_{35} - ((x_{12} - 1)x_{13}^2x_{34}^2 + x_{13}x_{14}x_{34} - x_{14}^2)x_{45}}{x_{13}^3x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{13}x_{35} - (x_{13}x_{34} - x_{14})x_{45}}{x_{13}^2x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = 0, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34} - x_{14}}{x_{13}^2x_{34}}, a_{35} = -\frac{x_{13}x_{15}x_{34} - x_{13}x_{14}x_{35} + ((x_{12} - 1)x_{13}^2x_{34}^2 + x_{13}x_{14}x_{34} - x_{14}^2)x_{45}}{x_{13}^3x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{13}x_{35} - (x_{13}x_{34} - x_{14})x_{45}}{x_{13}^2x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{12}x_{25}}{x_{34}x_{45}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{34}x_{45}}, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= \frac{x_{34}x_{45} - x_{35}}{x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{12}x_{25}}{x_{34}x_{45}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{34}x_{45}}, a_{25} = \frac{x_{34}x_{45} - x_{15}}{x_{12}x_{34}x_{45}}, \\ a_{34} &= 1, a_{35} = 1, \\ a_{45} &= \frac{x_{34}x_{45} - x_{35}}{x_{34}^2x_{45}} \end{aligned}$$



$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{12}x_{25} + x_{14}x_{45}}{x_{34}x_{45}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= -\frac{(x_{12} - 1)x_{34}^2x_{45} - x_{14}x_{35}}{x_{14}x_{34}x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{12} - 1}{x_{14}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{12}x_{25} + x_{14}x_{45}}{x_{34}x_{45}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= -\frac{(x_{12} - 1)x_{34}^2x_{45} + x_{15}x_{34} - x_{14}x_{35}}{x_{14}x_{34}x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{(x_{12} - 1)x_{34}x_{45} + x_{15}}{x_{14}x_{34}x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{13}x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34}x_{45} - x_{12}x_{25}}{x_{13}^2x_{34}x_{45}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= \frac{x_{13}x_{34}x_{45} - x_{12}x_{25} - x_{13}x_{35}}{x_{13}^2x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{13}x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{13}x_{34}x_{45} - x_{12}x_{25}}{x_{13}^2x_{34}x_{45}}, a_{35} = -\frac{(x_{12} - 1)x_{13}x_{34}x_{45} + x_{15}}{x_{13}^2x_{34}x_{45}}, \\ a_{45} &= \frac{x_{13}x_{34}x_{45} - x_{12}x_{25} - x_{13}x_{35}}{x_{13}^2x_{34}x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{13}x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}x_{25} - (x_{13}x_{34} - x_{14})x_{45}}{x_{13}^2x_{34}x_{45}}, a_{35} = \frac{x_{12}x_{14}x_{25} + x_{13}x_{14}x_{35} - ((x_{12} - 1)x_{13}^2x_{34}^2 + x_{13}x_{14}x_{34} - x_{14}^2)x_{45}}{x_{13}^3x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{12}x_{25} + x_{13}x_{35} - (x_{13}x_{34} - x_{14})x_{45}}{x_{13}^2x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & 0 & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{1}{x_{13}}, d_4 = \frac{1}{x_{13}x_{34}}, d_5 = \frac{1}{x_{13}x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= 0, a_{24} = \frac{x_{25}}{x_{13}x_{34}x_{45}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}x_{25} - (x_{13}x_{34} - x_{14})x_{45}}{x_{13}^2x_{34}x_{45}}, a_{35} = \frac{x_{12}x_{14}x_{25} - x_{13}x_{15}x_{34} + x_{13}x_{14}x_{35} - ((x_{12} - 1)x_{13}^2x_{34}^2 + x_{13}x_{14}x_{34} - x_{14}^2)x_{45}}{x_{13}^3x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{12}x_{25} + x_{13}x_{35} - (x_{13}x_{34} - x_{14})x_{45}}{x_{13}^2x_{34}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= \frac{x_{34}x_{45} + x_{35}}{x_{12}x_{24}x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{12}x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{x_{12}x_{24}x_{45} - x_{15}}{x_{12}^2x_{24}x_{45}}, \\ a_{34} &= \frac{x_{34}x_{45} + x_{35}}{x_{12}x_{24}x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{1}{x_{12}x_{24}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = \frac{x_{12}^2x_{24}^2 - x_{12}x_{14}x_{24} + x_{14}^2}{x_{12}^3x_{24}^2}, \\ a_{34} &= \frac{x_{12}x_{24}x_{35} + (x_{12}x_{24} - x_{14})x_{34}x_{45}}{x_{12}^2x_{24}^2x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}^2} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = -\frac{x_{12}x_{15}x_{24} - (x_{12}^2x_{24}^2 - x_{12}x_{14}x_{24} + x_{14}^2)x_{45}}{x_{12}^3x_{24}^2x_{45}}, \\ a_{34} &= \frac{x_{12}x_{24}x_{35} + (x_{12}x_{24} - x_{14})x_{34}x_{45}}{x_{12}^2x_{24}^2x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}^2} \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = \frac{1}{(x_{12}x_{24} + x_{13}x_{34})x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = -\frac{x_{13}x_{24}x_{35} - (x_{12}x_{24}^2 + x_{13}x_{24}x_{34})x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{12}x_{24}x_{35} + (x_{12}x_{24}x_{34} + x_{13}x_{34}^2)x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= -\frac{x_{13}x_{35} - (x_{12}x_{24} + x_{13}x_{34})x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}} \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{13}x_{35}}{x_{34}x_{45}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}x_{34}x_{45} - x_{13}x_{35}}{x_{13}x_{34}x_{45}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= -\frac{x_{12}}{x_{13}x_{34}} \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = \frac{1}{(x_{12}x_{24} + x_{13}x_{34})x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = -\frac{x_{13}x_{24}x_{35} - (x_{12}x_{24}^2 + x_{13}x_{24}x_{34})x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}}, a_{25} = 1, \\ a_{34} &= \frac{x_{12}x_{24}x_{35} + (x_{12}x_{24}x_{34} + x_{13}x_{34}^2)x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}}, a_{35} = -\frac{x_{15} + ((x_{12} - 1)x_{13}x_{34} + (x_{12}^2 - x_{12})x_{24})x_{45}}{(x_{12}x_{13}x_{24} + x_{13}^2x_{34})x_{45}}, \\ a_{45} &= -\frac{x_{13}x_{35} - (x_{12}x_{24} + x_{13}x_{34})x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}} \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{13}x_{35}}{x_{34}x_{45}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}x_{34}x_{45} - x_{13}x_{35}}{x_{13}x_{34}x_{45}}, a_{35} = -\frac{(x_{12} - 1)x_{34}x_{45} + x_{15}}{x_{13}x_{34}x_{45}}, \\ a_{45} &= -\frac{x_{12}}{x_{13}x_{34}} \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = \frac{1}{(x_{12}x_{24} + x_{13}x_{34})x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = -\frac{x_{13}x_{24}x_{35} - (x_{12}x_{24}^2 + x_{13}x_{24}x_{34} - x_{14}x_{24})x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{x_{12}x_{24}x_{35} + (x_{13}x_{34}^2 + (x_{12}x_{24} - x_{14})x_{34})x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}}, \\
 a_{35} &= \frac{x_{13}x_{14}x_{35} - ((x_{12} - 1)x_{13}^2x_{34}^2 + x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - x_{12}^2)x_{24}^2 + (x_{13}x_{14} + 2(x_{12}^2 - x_{12})x_{13}x_{24})x_{34})x_{45}}{(x_{12}^2x_{13}x_{24}^2 + 2x_{12}x_{13}^2x_{24}x_{34} + x_{13}^3x_{34}^2)x_{45}}, \\
 a_{45} &= -\frac{x_{13}x_{35} - (x_{12}x_{24} + x_{13}x_{34} - x_{14})x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}}
 \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\
 a_{12} &= 1, a_{13} = \frac{x_{13}x_{35} + x_{14}x_{45}}{x_{34}x_{45}}, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\
 a_{34} &= -\frac{x_{12}x_{34}x_{45} - x_{13}x_{35}}{x_{13}x_{34}x_{45}}, a_{35} = \frac{x_{12}x_{14} - (x_{12} - 1)x_{13}x_{34}}{x_{13}^2x_{34}}, \\
 a_{45} &= -\frac{x_{12}}{x_{13}x_{34}}
 \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned}
 d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = \frac{1}{(x_{12}x_{24} + x_{13}x_{34})x_{45}}, \\
 a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\
 a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = -\frac{x_{13}x_{24}x_{35} - (x_{12}x_{24}^2 + x_{13}x_{24}x_{34} - x_{14}x_{24})x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}}, a_{25} = 1, \\
 a_{34} &= \frac{x_{12}x_{24}x_{35} + (x_{13}x_{34}^2 + (x_{12}x_{24} - x_{14})x_{34})x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}}, \\
 a_{35} &= -\frac{x_{12}x_{15}x_{24} + x_{13}x_{15}x_{34} - x_{13}x_{14}x_{35} + ((x_{12} - 1)x_{13}^2x_{34}^2 + x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - x_{12}^2)x_{24}^2 + (x_{13}x_{14} + 2(x_{12}^2 - x_{12})x_{13}x_{24})x_{34})x_{45}}{(x_{12}^2x_{13}x_{24}^2 + 2x_{12}x_{13}^2x_{24}x_{34} + x_{13}^3x_{34}^2)x_{45}}, \\
 a_{45} &= -\frac{x_{13}x_{35} - (x_{12}x_{24} + x_{13}x_{34} - x_{14})x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}}
 \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & 0 \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{13}x_{35} + x_{14}x_{45}}{x_{34}x_{45}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}x_{34}x_{45} - x_{13}x_{35}}{x_{13}x_{34}x_{45}}, a_{35} = -\frac{x_{13}x_{15} - (x_{12}x_{14} - (x_{12} - 1)x_{13}x_{34})x_{45}}{x_{13}^2x_{34}x_{45}}, \\ a_{45} &= -\frac{x_{12}}{x_{13}x_{34}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{1}{x_{12}}, \\ a_{34} &= \frac{x_{24}x_{34}x_{45} - x_{25}x_{34} + x_{24}x_{35}}{x_{12}x_{24}^2x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{x_{24}x_{45} - x_{25}}{x_{12}x_{24}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{1}{x_{12}}, a_{25} = \frac{x_{12}x_{24}x_{45} - x_{15}}{x_{12}^2x_{24}x_{45}}, \\ a_{34} &= \frac{x_{24}x_{34}x_{45} - x_{25}x_{34} + x_{24}x_{35}}{x_{12}x_{24}^2x_{45}}, a_{35} = 1, \\ a_{45} &= \frac{x_{24}x_{45} - x_{25}}{x_{12}x_{24}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = \frac{x_{12}x_{14}x_{25} + (x_{12}^2x_{24}^2 - x_{12}x_{14}x_{24} + x_{14}^2)x_{45}}{x_{12}^3x_{24}^2x_{45}}, \\ a_{34} &= -\frac{x_{12}x_{25}x_{34} - x_{12}x_{24}x_{35} - (x_{12}x_{24} - x_{14})x_{34}x_{45}}{x_{12}^2x_{24}^2x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{12}x_{25} - (x_{12}x_{24} - x_{14})x_{45}}{x_{12}^2x_{24}^2x_{45}} \end{aligned}$$

$$x = \begin{pmatrix} 1 & x_{12} & 0 & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24}}, d_4 = \frac{1}{x_{12}x_{24}}, d_5 = \frac{1}{x_{12}x_{24}x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{1}{x_{12}}, a_{24} = \frac{x_{12}x_{24} - x_{14}}{x_{12}^2x_{24}}, a_{25} = -\frac{x_{12}x_{15}x_{24} - x_{12}x_{14}x_{25} - (x_{12}^2x_{24}^2 - x_{12}x_{14}x_{24} + x_{14}^2)x_{45}}{x_{12}^3x_{24}^2x_{45}}, \\ a_{34} &= -\frac{x_{12}x_{25}x_{34} - x_{12}x_{24}x_{35} - (x_{12}x_{24} - x_{14})x_{34}x_{45}}{x_{12}^2x_{24}^2x_{45}}, a_{35} = 1, \\ a_{45} &= -\frac{x_{12}x_{25} - (x_{12}x_{24} - x_{14})x_{45}}{x_{12}^2x_{24}^2x_{45}} \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = \frac{1}{(x_{12}x_{24} + x_{13}x_{34})x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = \frac{x_{13}x_{25}x_{34} - x_{13}x_{24}x_{35} + (x_{12}x_{24}^2 + x_{13}x_{24}x_{34})x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}x_{25}x_{34} - x_{12}x_{24}x_{35} - (x_{12}x_{24}x_{34} + x_{13}x_{34}^2)x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= -\frac{x_{12}x_{25} + x_{13}x_{35} - (x_{12}x_{24} + x_{13}x_{34})x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}} \end{aligned}$$



Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{12}x_{25} + x_{13}x_{35}}{x_{34}x_{45}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}x_{34}x_{45} - x_{12}x_{25} - x_{13}x_{35}}{x_{13}x_{34}x_{45}}, a_{35} = -\frac{x_{12} - 1}{x_{13}}, \\ a_{45} &= -\frac{x_{12}x_{34}x_{45} - x_{12}x_{25}}{x_{13}x_{34}^2x_{45}} \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = \frac{1}{(x_{12}x_{24} + x_{13}x_{34})x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = \frac{x_{13}x_{25}x_{34} - x_{13}x_{24}x_{35} + (x_{12}x_{24}^2 + x_{13}x_{24}x_{34})x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}x_{25}x_{34} - x_{12}x_{24}x_{35} - (x_{12}x_{24}x_{34} + x_{13}x_{34}^2)x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}}, a_{35} = -\frac{x_{15} + ((x_{12} - 1)x_{13}x_{34} + (x_{12}^2 - x_{12})x_{24})x_{45}}{(x_{12}x_{13}x_{24} + x_{13}^2x_{34})x_{45}}, \\ a_{45} &= -\frac{x_{12}x_{25} + x_{13}x_{35} - (x_{12}x_{24} + x_{13}x_{34})x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}} \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & 0 & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{12}x_{25} + x_{13}x_{35}}{x_{34}x_{45}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}x_{34}x_{45} - x_{12}x_{25} - x_{13}x_{35}}{x_{13}x_{34}x_{45}}, a_{35} = -\frac{(x_{12} - 1)x_{34}x_{45} + x_{15}}{x_{13}x_{34}x_{45}}, \\ a_{45} &= -\frac{x_{12}x_{34}x_{45} - x_{12}x_{25}}{x_{13}x_{34}^2x_{45}} \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = \frac{1}{(x_{12}x_{24} + x_{13}x_{34})x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = \frac{x_{13}x_{25}x_{34} - x_{13}x_{24}x_{35} + (x_{12}x_{24}^2 + x_{13}x_{24}x_{34} - x_{14}x_{24})x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}x_{25}x_{34} - x_{12}x_{24}x_{35} - (x_{13}x_{34}^2 + (x_{12}x_{24} - x_{14})x_{34})x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}}, \\ a_{35} &= \frac{x_{12}x_{14}x_{25} + x_{13}x_{14}x_{35} - ((x_{12} - 1)x_{13}^2x_{34}^2 + x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - x_{12}^2)x_{24}^2 + (x_{13}x_{14} + 2(x_{12}^2 - x_{12})x_{13}x_{24})x_{34})x_{45}}{(x_{12}^2x_{13}x_{24}^2 + 2x_{12}x_{13}^2x_{24}x_{34} + x_{13}^3x_{34}^2)x_{45}}, \\ a_{45} &= -\frac{x_{12}x_{25} + x_{13}x_{35} - (x_{12}x_{24} + x_{13}x_{34} - x_{14})x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}} \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & 0 \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{12}x_{25} + x_{13}x_{35} + x_{14}x_{45}}{x_{34}x_{45}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}x_{34}x_{45} - x_{12}x_{25} - x_{13}x_{35}}{x_{13}x_{34}x_{45}}, a_{35} = -\frac{x_{12}x_{14}x_{25} - (x_{12}x_{14}x_{34} - (x_{12} - 1)x_{13}x_{34}^2)x_{45}}{x_{13}^2x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{12}x_{34}x_{45} - x_{12}x_{25}}{x_{13}x_{34}^2x_{45}} \end{aligned}$$

First assume  $x_{24} \neq \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 1 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = \frac{x_{34}}{x_{12}x_{24} + x_{13}x_{34}}, d_4 = \frac{1}{x_{12}x_{24} + x_{13}x_{34}}, d_5 = \frac{1}{(x_{12}x_{24} + x_{13}x_{34})x_{45}}, \\ a_{12} &= 1, a_{13} = 1, a_{14} = 1, a_{15} = 1, \\ a_{23} &= \frac{x_{24}}{x_{12}x_{24} + x_{13}x_{34}}, a_{24} = \frac{x_{13}x_{25}x_{34} - x_{13}x_{24}x_{35} + (x_{12}x_{24}^2 + x_{13}x_{24}x_{34} - x_{14}x_{24})x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}}, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}x_{25}x_{34} - x_{12}x_{24}x_{35} - (x_{13}x_{34}^2 + (x_{12}x_{24} - x_{14})x_{34})x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}}, \\ a_{35} &= -\frac{x_{12}x_{15}x_{24} - x_{12}x_{14}x_{25} + x_{13}x_{15}x_{34} - x_{13}x_{14}x_{35} + ((x_{12} - 1)x_{13}^2x_{34}^2 + x_{12}x_{14}x_{24} - x_{14}^2 + (x_{12}^3 - x_{12}^2)x_{24}^2 + (x_{13}x_{14} + 2(x_{12}^2 - x_{12})x_{13}x_{24})x_{34})x_{45}}{(x_{12}^2x_{13}x_{24}^2 + 2x_{12}x_{13}^2x_{24}x_{34} + x_{13}^3x_{34}^2)x_{45}}, \\ a_{45} &= -\frac{x_{12}x_{25} + x_{13}x_{35} - (x_{12}x_{24} + x_{13}x_{34} - x_{14})x_{45}}{(x_{12}^2x_{24}^2 + 2x_{12}x_{13}x_{24}x_{34} + x_{13}^2x_{34}^2)x_{45}} \end{aligned}$$

Now assume  $x_{24} = \frac{-x_{13}x_{34}}{x_{12}}$ .

$$x = \begin{pmatrix} 1 & x_{12} & x_{13} & x_{14} & x_{15} \\ 0 & 1 & 0 & x_{24} & x_{25} \\ 0 & 0 & 1 & x_{34} & x_{35} \\ 0 & 0 & 0 & 1 & x_{45} \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}, x^A = \begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

Where matrix  $A$  has entries

$$\begin{aligned} d_1 &= 1, d_2 = \frac{1}{x_{12}}, d_3 = 1, d_4 = \frac{1}{x_{34}}, d_5 = \frac{1}{x_{34}x_{45}}, \\ a_{12} &= 1, a_{13} = \frac{x_{12}x_{25} + x_{13}x_{35} + x_{14}x_{45}}{x_{34}x_{45}}, a_{14} = 1, a_{15} = 1, \\ a_{23} &= -\frac{x_{13}}{x_{12}}, a_{24} = 1, a_{25} = 1, \\ a_{34} &= -\frac{x_{12}x_{34}x_{45} - x_{12}x_{25} - x_{13}x_{35}}{x_{13}x_{34}x_{45}}, a_{35} = -\frac{x_{12}x_{14}x_{25} + x_{13}x_{15}x_{34} - (x_{12}x_{14}x_{34} - (x_{12} - 1)x_{13}x_{34}^2)x_{45}}{x_{13}^2x_{34}^2x_{45}}, \\ a_{45} &= -\frac{x_{12}x_{34}x_{45} - x_{12}x_{25}}{x_{13}x_{34}^2x_{45}} \end{aligned}$$

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