

$$\left\{ \begin{array}{l} a_{11} = a_{22} = 0, a_{33} + a_{44} = 0, a_{31}(a_{13} + a_{14}) = 0, a_{32}(a_{23} + a_{24}) = 0, a_{12}a_{31}(a_{23} + a_{24}) = 0. \end{array} \right.$$