

$$\begin{aligned}
& \left( \begin{array}{cccc|cccc} 1 & 1^{-1} & 1^{-1} & 0^{+1} & 1 & 0 & 0^{-1} & 0 \\ 0 & 1 & 0 & 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 1 & -1 & 0 & 0 & 1 & 0 \\ -2^{+2} & -1^{+2} & -1^{+2} & 0 & 0^{+2} & 0 & 0 & 1 \end{array} \right) \sim \left( \begin{array}{cccc|cccc} 1 & 0 & 0 & 1 & 1 & 0 & -1 & 0 \\ 0 & 1 & 0 & 1 & 0 & 1 & 0 & 0 \\ 0 & 1 & 1 & -1 & 0 & 0 & 1 & 0 \\ 0 & 1^{-1} & 1^{-1} & 0^{+1} & 2 & 0 & 0^{-1} & 1 \end{array} \right) \sim \left( \begin{array}{cccc|cccc} 1 & 0 & 0 & 1^{-1} & 1^{-2} & 0 & -1^{+1} & 0^{-1} \\ 0 & 1 & 0 & 1^{-1} & 0^{-2} & 1 & 0^{+1} & 0^{-1} \\ 0 & 1 & 1 & -1^{+1} & 0^{+2} & 0 & 1^{-1} & 0^{+1} \\ 0 & 0 & 0 & 1 & 2 & 0 & -1 & 1 \end{array} \right) \sim \\
& \sim \left( \begin{array}{cccc|cccc} 1 & 0 & 0 & 0 & -1 & 0 & 0 & -1 \\ 0 & 1 & 0 & 0 & -2 & 1 & 1 & -1 \\ 0 & 1^{-1} & 1 & 0 & 2^{+2} & 0^{-1} & 0^{-1} & 1^{+1} \\ 0 & 0 & 0 & 1 & 2 & 0 & -1 & 1 \end{array} \right) \sim \left( \begin{array}{cccc|cccc} 1 & 0 & 0 & 0 & -1 & 0 & 0 & -1 \\ 0 & 1 & 0 & 0 & -2 & 1 & 1 & -1 \\ 0 & 0 & 1 & 0 & 4 & -1 & -1 & 2 \\ 0 & 0 & 0 & 1 & 2 & 0 & -1 & 1 \end{array} \right)
\end{aligned}$$

$$\text{O}_{\text{TBET}}: e_1 = \begin{bmatrix} -1 \\ -2 \\ 4 \\ 2 \end{bmatrix}, e_2 = \begin{bmatrix} 0 \\ 1 \\ -1 \\ 0 \end{bmatrix}, e_3 = \begin{bmatrix} 0 \\ 1 \\ -1 \\ -1 \end{bmatrix}, e_4 = \begin{bmatrix} -1 \\ -1 \\ 2 \\ 1 \end{bmatrix}$$