

f1 =

$$\begin{aligned} & -x_1 x_{11} + x_{10} x_{11} - x_1 x_{12} - x_{10} x_{12} + x_{11} x_{12} + x_1 x_{13} - x_{10} x_{13} - x_{11} x_{13} + x_{12} x_{13} + \\ & x_1 x_2 + x_{10} x_2 - x_{12} x_2 - x_{13} x_2 - x_1 x_3 + x_{11} x_3 - x_{13} x_3 + x_2 x_3 - x_1 x_4 + x_{12} x_4 - \\ & x_2 x_4 + x_3 x_4 + x_{10} x_5 + x_{13} x_5 - x_2 x_5 - x_3 x_5 + x_4 x_5 + x_1 x_6 + x_{11} x_6 - x_3 x_6 - x_4 x_6 + \\ & x_5 x_6 - x_{10} x_7 + x_{12} x_7 + x_2 x_7 - x_4 x_7 - x_5 x_7 + x_6 x_7 - x_{10} x_8 - x_{11} x_8 + x_{13} x_8 + x_3 x_8 - \\ & x_5 x_8 - x_6 x_8 + x_7 x_8 + x_1 x_9 + x_{10} x_9 - x_{11} x_9 - x_{12} x_9 + x_4 x_9 - x_6 x_9 - x_7 x_9 + x_8 x_9 \end{aligned}$$

f2 =

$$\begin{aligned} & -x_1 x_{10} + x_1 x_{11} + x_1 x_{12} + x_{10} x_{12} + x_{10} x_{13} + x_{11} x_{13} - x_{11} x_2 + x_{12} x_2 + x_{13} x_2 + \\ & x_1 x_3 - x_{10} x_3 - x_{12} x_3 + x_{13} x_3 + x_1 x_4 - x_{10} x_4 - x_{11} x_4 - x_{13} x_4 + x_2 x_4 - x_1 x_5 - \\ & x_{11} x_5 - x_{12} x_5 + x_2 x_5 + x_3 x_5 - x_{10} x_6 - x_{12} x_6 - x_{13} x_6 - x_2 x_6 + x_3 x_6 + x_4 x_6 - x_1 x_7 + \\ & x_{10} x_7 - x_{11} x_7 - x_{13} x_7 - x_3 x_7 + x_4 x_7 + x_5 x_7 - x_1 x_8 + x_{10} x_8 + x_{11} x_8 - x_{12} x_8 - x_2 x_8 - \\ & x_4 x_8 + x_5 x_8 + x_6 x_8 + x_{11} x_9 + x_{12} x_9 - x_{13} x_9 - x_2 x_9 - x_3 x_9 - x_5 x_9 + x_6 x_9 + x_7 x_9 \end{aligned}$$

f3 =

$$\begin{aligned} & x_1 x_{10} - x_{10} x_{11} - x_{11} x_{12} - x_1 x_{13} - x_{12} x_{13} - x_1 x_2 - x_{10} x_2 + x_{11} x_2 + x_{10} x_3 - x_{11} x_3 + \\ & x_{12} x_3 - x_2 x_3 + x_{10} x_4 + x_{11} x_4 - x_{12} x_4 + x_{13} x_4 - x_3 x_4 + x_1 x_5 - x_{10} x_5 + x_{11} x_5 + \\ & x_{12} x_5 - x_{13} x_5 - x_4 x_5 - x_1 x_6 + x_{10} x_6 - x_{11} x_6 + x_{12} x_6 + x_{13} x_6 + x_2 x_6 - x_5 x_6 + \\ & x_1 x_7 + x_{11} x_7 - x_{12} x_7 + x_{13} x_7 - x_2 x_7 + x_3 x_7 - x_6 x_7 + x_1 x_8 + x_{12} x_8 - x_{13} x_8 + x_2 x_8 - \\ & x_3 x_8 + x_4 x_8 - x_7 x_8 - x_1 x_9 - x_{10} x_9 + x_{13} x_9 + x_2 x_9 + x_3 x_9 - x_4 x_9 + x_5 x_9 - x_8 x_9 \end{aligned}$$