

$$\begin{aligned}
f_4 = & x_{16} + x_{14} + x_{14}x_{15}x_{16} + x_{13}x_{16} + x_{13}x_{14}x_{15} + x_{13}x_{14}x_{15}x_{16} + x_{12} + \\
& x_{12}x_{15}x_{16} + x_{12}x_{14}x_{16} + x_{12}x_{14}x_{15} + x_{12}x_{14}x_{15}x_{16} + x_{12}x_{13} + x_{12}x_{13}x_{14} + x_{12}x_{13}x_{14}x_{16} + \\
& x_{12}x_{13}x_{14}x_{15} + x_{11}x_{16} + x_{11}x_{15} + x_{11}x_{15}x_{16} + x_{11}x_{14} + x_{11}x_{14}x_{15} + x_{11}x_{13} + \\
& x_{11}x_{13}x_{16} + x_{11}x_{13}x_{14} + x_{11}x_{13}x_{14}x_{15} + x_{11}x_{13}x_{14}x_{15}x_{16} + x_{11}x_{12} + x_{11}x_{12}x_{16} + \\
& x_{11}x_{12}x_{14} + x_{11}x_{12}x_{14}x_{15} + x_{11}x_{12}x_{14}x_{15}x_{16} + x_{11}x_{12}x_{13}x_{14} + x_{11}x_{12}x_{13}x_{14}x_{15} + \\
& x_{10} + x_{10}x_{16} + x_{10}x_{15} + x_{10}x_{14}x_{16} + x_{10}x_{13} + x_{10}x_{13}x_{16} + x_{10}x_{13}x_{15}x_{16} + x_{10}x_{12} + \\
& x_9 + x_9x_{13}x_{15} + x_9x_{13}x_{15}x_{16} + x_9x_{13}x_{14}x_{16} + x_9x_{13}x_{14}x_{15} + x_9x_{13}x_{14}x_{15}x_{16} + \\
& x_9x_{12}x_{16} + x_9x_{12}x_{15}x_{16} + x_9x_{12}x_{14}x_{16} + x_9x_{12}x_{14}x_{15} + x_9x_{12}x_{13}x_{16} + x_9x_{12}x_{13}x_{15} + \\
& x_9x_{12}x_{13}x_{14} + x_9x_{12}x_{13}x_{14}x_{16} + x_9x_{12}x_{13}x_{14}x_{15} + x_9x_{11} + x_9x_{11}x_{16} + x_9x_{11}x_{15} + \\
& x_9x_{11}x_{14}x_{16} + x_9x_{11}x_{13} + x_9x_{11}x_{13}x_{16} + x_9x_{11}x_{13}x_{15}x_{16} + x_9x_{11}x_{12} + x_8 + \\
& x_8x_{15}x_{16} + x_8x_{14}x_{16} + x_8x_{14}x_{15} + x_8x_{14}x_{15}x_{16} + x_8x_{13} + x_8x_{13}x_{14} + x_8x_{13}x_{14}x_{16} + \\
& x_8x_{13}x_{14}x_{15} + x_8x_{11} + x_8x_{11}x_{16} + x_8x_{11}x_{14} + x_8x_{11}x_{14}x_{15} + x_8x_{11}x_{14}x_{15}x_{16} + \\
& x_8x_{11}x_{13}x_{14} + x_8x_{11}x_{13}x_{14}x_{15} + x_8x_{10} + x_8x_9x_{16} + x_8x_9x_{15}x_{16} + x_8x_9x_{14}x_{16} + \\
& x_8x_9x_{14}x_{15} + x_8x_9x_{13}x_{16} + x_8x_9x_{13}x_{15} + x_8x_9x_{13}x_{14} + x_8x_9x_{13}x_{14}x_{16} + x_8x_9x_{13}x_{14}x_{15} + \\
& x_8x_9x_{11} + x_7x_{16} + x_7x_{15} + x_7x_{15}x_{16} + x_7x_{14} + x_7x_{14}x_{15} + x_7x_{13} + x_7x_{13}x_{16} + \\
& x_7x_{13}x_{14} + x_7x_{13}x_{14}x_{15} + x_7x_{13}x_{14}x_{15}x_{16} + x_7x_{12} + x_7x_{12}x_{16} + x_7x_{12}x_{14} + \\
& x_7x_{12}x_{14}x_{15} + x_7x_{12}x_{14}x_{15}x_{16} + x_7x_{12}x_{13}x_{14} + x_7x_{12}x_{13}x_{14}x_{15} + x_7x_9 + x_7x_9x_{16} + \\
& x_7x_9x_{15} + x_7x_9x_{14}x_{16} + x_7x_9x_{13} + x_7x_9x_{13}x_{16} + x_7x_9x_{13}x_{15}x_{16} + x_7x_9x_{12} + x_7x_8 + \\
& x_7x_8x_{16} + x_7x_8x_{14} + x_7x_8x_{14}x_{15} + x_7x_8x_{14}x_{15}x_{16} + x_7x_8x_{13}x_{14} + x_7x_8x_{13}x_{14}x_{15} + \\
& x_7x_8x_9 + x_6 + x_6x_{16} + x_6x_{15} + x_6x_{14}x_{16} + x_6x_{13} + x_6x_{13}x_{16} + x_6x_{13}x_{15}x_{16} + \\
& x_6x_{12} + x_6x_8 + x_5 + x_5x_{13}x_{15} + x_5x_{13}x_{15}x_{16} + x_5x_{13}x_{14}x_{16} + x_5x_{13}x_{14}x_{15} + \\
& x_5x_{13}x_{14}x_{15}x_{16} + x_5x_{12}x_{16} + x_5x_{12}x_{15}x_{16} + x_5x_{12}x_{14}x_{16} + x_5x_{12}x_{14}x_{15} + x_5x_{12}x_{13}x_{16} + \\
& x_5x_{12}x_{13}x_{15} + x_5x_{12}x_{13}x_{14} + x_5x_{12}x_{13}x_{14}x_{16} + x_5x_{12}x_{13}x_{14}x_{15} + x_5x_{11} + x_5x_{11}x_{16} + \\
& x_5x_{11}x_{15} + x_5x_{11}x_{14}x_{16} + x_5x_{11}x_{13} + x_5x_{11}x_{13}x_{16} + x_5x_{11}x_{13}x_{15}x_{16} + x_5x_{11}x_{12} + \\
& x_5x_8x_{16} + x_5x_8x_{15}x_{16} + x_5x_8x_{14}x_{16} + x_5x_8x_{14}x_{15} + x_5x_8x_{13}x_{16} + x_5x_8x_{13}x_{15} + \\
& x_5x_8x_{13}x_{14} + x_5x_8x_{13}x_{14}x_{16} + x_5x_8x_{13}x_{14}x_{15} + x_5x_8x_{11} + x_5x_7 + x_5x_7x_{16} + \\
& x_5x_7x_{15} + x_5x_7x_{14}x_{16} + x_5x_7x_{13} + x_5x_7x_{13}x_{16} + x_5x_7x_{13}x_{15}x_{16} + x_5x_7x_{12} + \\
& x_5x_7x_8 + x_4x_{15}x_{16} + x_4x_{14}x_{16} + x_4x_{14}x_{15} + x_4x_{14}x_{15}x_{16} + x_4x_{13} + x_4x_{13}x_{14} + \\
& x_4x_{13}x_{14}x_{16} + x_4x_{13}x_{14}x_{15} + x_4x_{11} + x_4x_{11}x_{16} + x_4x_{11}x_{14} + x_4x_{11}x_{14}x_{15} + \\
& x_4x_{11}x_{14}x_{15}x_{16} + x_4x_{11}x_{13}x_{14} + x_4x_{11}x_{13}x_{14}x_{15} + x_4x_{10} + x_4x_9x_{16} + x_4x_9x_{15}x_{16} + \\
& x_4x_9x_{14}x_{16} + x_4x_9x_{14}x_{15} + x_4x_9x_{13}x_{16} + x_4x_9x_{13}x_{15} + x_4x_9x_{13}x_{14} + x_4x_9x_{13}x_{14}x_{16} + \\
& x_4x_9x_{13}x_{14}x_{15} + x_4x_9x_{11} + x_4x_7 + x_4x_7x_{16} + x_4x_7x_{14} + x_4x_7x_{14}x_{15} + x_4x_7x_{14}x_{15}x_{16} + \\
& x_4x_7x_{13}x_{14} + x_4x_7x_{13}x_{14}x_{15} + x_4x_7x_9 + x_4x_6 + x_4x_5x_{16} + x_4x_5x_{15}x_{16} + x_4x_5x_{14}x_{16} + \\
& x_4x_5x_{14}x_{15} + x_4x_5x_{13}x_{16} + x_4x_5x_{13}x_{15} + x_4x_5x_{13}x_{14} + x_4x_5x_{13}x_{14}x_{16} + x_4x_5x_{13}x_{14}x_{15} + \\
& x_4x_5x_{11} + x_4x_5x_7 + x_3x_{16} + x_3x_{15} + x_3x_{15}x_{16} + x_3x_{14} + x_3x_{14}x_{15} + x_3x_{13} + \\
& x_3x_{13}x_{16} + x_3x_{13}x_{14} + x_3x_{13}x_{14}x_{15} + x_3x_{13}x_{14}x_{15}x_{16} + x_3x_{12} + x_3x_{12}x_{16} + \\
& x_3x_{12}x_{14} + x_3x_{12}x_{14}x_{15} + x_3x_{12}x_{14}x_{15}x_{16} + x_3x_{12}x_{13}x_{14} + x_3x_{12}x_{13}x_{14}x_{15} + \\
& x_3x_9 + x_3x_9x_{16} + x_3x_9x_{15} + x_3x_9x_{14}x_{16} + x_3x_9x_{13} + x_3x_9x_{13}x_{16} + x_3x_9x_{13}x_{15}x_{16} + \\
& x_3x_9x_{12} + x_3x_8 + x_3x_8x_{16} + x_3x_8x_{14} + x_3x_8x_{14}x_{15} + x_3x_8x_{14}x_{15}x_{16} + x_3x_8x_{13}x_{14} + \\
& x_3x_8x_{13}x_{14}x_{15} + x_3x_8x_9 + x_3x_5 + x_3x_5x_{16} + x_3x_5x_{15} + x_3x_5x_{14}x_{16} + x_3x_5x_{13} + \\
& x_3x_5x_{13}x_{16} + x_3x_5x_{13}x_{15}x_{16} + x_3x_5x_{12} + x_3x_5x_8 + x_3x_4 + x_3x_4x_{16} + x_3x_4x_{14} + \\
& x_3x_4x_{14}x_{15} + x_3x_4x_{14}x_{15}x_{16} + x_3x_4x_{13}x_{14} + x_3x_4x_{13}x_{14}x_{15} + x_3x_4x_9 + x_3x_4x_5 + \\
& x_2 + x_2x_{16} + x_2x_{15} + x_2x_{14}x_{16} + x_2x_{13} + x_2x_{13}x_{16} + x_2x_{13}x_{15}x_{16} + x_2x_{12} + \\
& x_2x_8 + x_2x_4 + x_1 + x_1x_{13}x_{15} + x_1x_{13}x_{15}x_{16} + x_1x_{13}x_{14}x_{16} + x_1x_{13}x_{14}x_{15} + \\
& x_1x_{13}x_{14}x_{15}x_{16} + x_1x_{12}x_{16} + x_1x_{12}x_{15}x_{16} + x_1x_{12}x_{14}x_{16} + x_1x_{12}x_{14}x_{15} + x_1x_{12}x_{13}x_{16} + \\
& x_1x_{12}x_{13}x_{15} + x_1x_{12}x_{13}x_{14} + x_1x_{12}x_{13}x_{14}x_{16} + x_1x_{12}x_{13}x_{14}x_{15} + x_1x_{11} + x_1x_{11}x_{16} +
\end{aligned}$$

$$\begin{aligned}
& x_1x_{11}x_{15} + x_1x_{11}x_{14}x_{16} + x_1x_{11}x_{13} + x_1x_{11}x_{13}x_{16} + x_1x_{11}x_{13}x_{15}x_{16} + x_1x_{11}x_{12} + \\
& x_1x_8x_{16} + x_1x_8x_{15}x_{16} + x_1x_8x_{14}x_{16} + x_1x_8x_{14}x_{15} + x_1x_8x_{13}x_{16} + x_1x_8x_{13}x_{15} + \\
& x_1x_8x_{13}x_{14} + x_1x_8x_{13}x_{14}x_{16} + x_1x_8x_{13}x_{14}x_{15} + x_1x_8x_{11} + x_1x_7 + x_1x_7x_{16} + \\
& x_1x_7x_{15} + x_1x_7x_{14}x_{16} + x_1x_7x_{13} + x_1x_7x_{13}x_{16} + x_1x_7x_{13}x_{15}x_{16} + x_1x_7x_{12} + \\
& x_1x_7x_8 + x_1x_4x_{16} + x_1x_4x_{15}x_{16} + x_1x_4x_{14}x_{16} + x_1x_4x_{14}x_{15} + x_1x_4x_{13}x_{16} + \\
& x_1x_4x_{13}x_{15} + x_1x_4x_{13}x_{14} + x_1x_4x_{13}x_{14}x_{16} + x_1x_4x_{13}x_{14}x_{15} + x_1x_4x_{11} + x_1x_4x_7 + \\
& x_1x_3 + x_1x_3x_{16} + x_1x_3x_{15} + x_1x_3x_{14}x_{16} + x_1x_3x_{13} + x_1x_3x_{13}x_{16} + x_1x_3x_{13}x_{15}x_{16} + \\
& x_1x_3x_{12} + x_1x_3x_8 + x_1x_3x_4
\end{aligned}$$