$$y_0 = (x_0 \wedge x_1) \wedge ((\neg x_2 \wedge x_3) \vee (x_2 \wedge \neg x_3) \vee (x_2 \wedge x_3) \vee (\neg x_2 \wedge \neg x_3)) \tag{1}$$

$$y_1 = (x_0 \wedge x_1) \wedge ((\neg x_2 \wedge x_3) \vee (x_2 \wedge \neg x_3) \vee (x_2 \wedge x_3)) \tag{2}$$

$$y_2 = (x_0 \wedge x_1) \wedge ((\neg x_2 \wedge x_3) \vee (x_2 \wedge \neg x_3) \vee (x_2 \wedge x_3)) \tag{3}$$

$$y_3 = (x_0 \wedge x_3 \wedge x_1) \wedge (\neg x_2 \vee x_2) \tag{4}$$