

Normalising constant

$$f(x_{1:6}|y_{1:3}) = cg_{12}(x_1, x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

Normalising constant

$$f(x_{1:6}|y_{1:3}) = cg_{12}(x_1, x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{2:6}|y_{1:3}) =$$

Normalising constant

$$f(x_{1:6}|y_{1:3}) = cg_{12}(x_1, x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{2:6}|y_{1:3}) = c \left[\sum_{x_1} g_{12}(x_1, x_2) \right] g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

Normalising constant

$$f(x_{1:6}|y_{1:3}) = cg_{12}(x_1, x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$\begin{aligned} f(x_{2:6}|y_{1:3}) &= c \left[\sum_{x_1} g_{12}(x_1, x_2) \right] g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6) \\ &= ch_2(x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6) \end{aligned}$$

Normalising constant

$$f(x_{1:6}|y_{1:3}) = c g_{12}(x_1, x_2) g_{245}(x_2, x_4, x_5) g_{235}(x_2, x_3, x_5) g_{36}(x_3, x_6)$$

$$f(x_{2:6}|y_{1:3}) = c \left[\sum_{x_1} g_{12}(x_1, x_2) \right] g_{245}(x_2, x_4, x_5) g_{235}(x_2, x_3, x_5) g_{36}(x_3, x_6)$$

$$= c h_2(x_2) g_{245}(x_2, x_4, x_5) g_{235}(x_2, x_3, x_5) g_{36}(x_3, x_6)$$

$$= c \tilde{g}_{245}(x_2, x_4, x_5) g_{235}(x_2, x_3, x_5) g_{36}(x_3, x_6)$$

Normalising constant

$$f(x_{1:6}|y_{1:3}) = cg_{12}(x_1, x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{2:6}|y_{1:3}) = c \left[\sum_{x_1} g_{12}(x_1, x_2) \right] g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= ch_2(x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= c\tilde{g}_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{3:6}|y_{1:3}) = c \left[\sum_{x_2} \tilde{g}_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5) \right] g_{36}(x_3, x_6)$$

Normalising constant

$$f(x_{1:6}|y_{1:3}) = cg_{12}(x_1, x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{2:6}|y_{1:3}) = c \left[\sum_{x_1} g_{12}(x_1, x_2) \right] g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= ch_2(x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= c\tilde{g}_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{3:6}|y_{1:3}) = c \left[\sum_{x_2} \tilde{g}_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5) \right] g_{36}(x_3, x_6)$$

$$= c\tilde{g}_{345}(x_3, x_4, x_5)g_{36}(x_3, x_6)$$

Normalising constant

$$f(x_{1:6}|y_{1:3}) = cg_{12}(x_1, x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{2:6}|y_{1:3}) = c \left[\sum_{x_1} g_{12}(x_1, x_2) \right] g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= ch_2(x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= c\tilde{g}_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{3:6}|y_{1:3}) = c \left[\sum_{x_2} \tilde{g}_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5) \right] g_{36}(x_3, x_6)$$

$$= c\tilde{g}_{345}(x_3, x_4, x_5)g_{36}(x_3, x_6)$$

$$f(x_{4:6}|y_{1:3}) = c \sum_{x_3} \tilde{g}_{345}(x_3, x_4, x_5)g_{36}(x_3, x_6)$$

Normalising constant

$$f(x_{1:6}|y_{1:3}) = c g_{12}(x_1, x_2) g_{245}(x_2, x_4, x_5) g_{235}(x_2, x_3, x_5) g_{36}(x_3, x_6)$$

$$\begin{aligned} f(x_{2:6}|y_{1:3}) &= c \left[\sum_{x_1} g_{12}(x_1, x_2) \right] g_{245}(x_2, x_4, x_5) g_{235}(x_2, x_3, x_5) g_{36}(x_3, x_6) \\ &= c h_2(x_2) g_{245}(x_2, x_4, x_5) g_{235}(x_2, x_3, x_5) g_{36}(x_3, x_6) \\ &= c \tilde{g}_{245}(x_2, x_4, x_5) g_{235}(x_2, x_3, x_5) g_{36}(x_3, x_6) \end{aligned}$$

$$\begin{aligned} f(x_{3:6}|y_{1:3}) &= c \left[\sum_{x_2} \tilde{g}_{245}(x_2, x_4, x_5) g_{235}(x_2, x_3, x_5) \right] g_{36}(x_3, x_6) \\ &= c \tilde{g}_{345}(x_3, x_4, x_5) g_{36}(x_3, x_6) \end{aligned}$$

$$f(x_{4:6}|y_{1:3}) = c \sum_{x_3} \tilde{g}_{345}(x_3, x_4, x_5) g_{36}(x_3, x_6) = c \tilde{g}_{456}(x_4, x_5, x_6)$$

Normalising constant

$$f(x_{1:6}|y_{1:3}) = c g_{12}(x_1, x_2) g_{245}(x_2, x_4, x_5) g_{235}(x_2, x_3, x_5) g_{36}(x_3, x_6)$$

$$\begin{aligned} f(x_{2:6}|y_{1:3}) &= c \left[\sum_{x_1} g_{12}(x_1, x_2) \right] g_{245}(x_2, x_4, x_5) g_{235}(x_2, x_3, x_5) g_{36}(x_3, x_6) \\ &= c h_2(x_2) g_{245}(x_2, x_4, x_5) g_{235}(x_2, x_3, x_5) g_{36}(x_3, x_6) \\ &= c \tilde{g}_{245}(x_2, x_4, x_5) g_{235}(x_2, x_3, x_5) g_{36}(x_3, x_6) \end{aligned}$$

$$\begin{aligned} f(x_{3:6}|y_{1:3}) &= c \left[\sum_{x_2} \tilde{g}_{245}(x_2, x_4, x_5) g_{235}(x_2, x_3, x_5) \right] g_{36}(x_3, x_6) \\ &= c \tilde{g}_{345}(x_3, x_4, x_5) g_{36}(x_3, x_6) \end{aligned}$$

$$f(x_{4:6}|y_{1:3}) = c \sum_{x_3} \tilde{g}_{345}(x_3, x_4, x_5) g_{36}(x_3, x_6) = c \tilde{g}_{456}(x_4, x_5, x_6)$$

$$f(x_{5:6}|y_{1:3}) = c \sum_{x_4} \tilde{g}_{456}(x_4, x_5, x_6) = \tilde{g}_{56}(x_5, x_6)$$

Normalising constant

$$f(x_{1:6}|y_{1:3}) = c g_{12}(x_1, x_2) g_{245}(x_2, x_4, x_5) g_{235}(x_2, x_3, x_5) g_{36}(x_3, x_6)$$

$$\begin{aligned} f(x_{2:6}|y_{1:3}) &= c \left[\sum_{x_1} g_{12}(x_1, x_2) \right] g_{245}(x_2, x_4, x_5) g_{235}(x_2, x_3, x_5) g_{36}(x_3, x_6) \\ &= c h_2(x_2) g_{245}(x_2, x_4, x_5) g_{235}(x_2, x_3, x_5) g_{36}(x_3, x_6) \\ &= c \tilde{g}_{245}(x_2, x_4, x_5) g_{235}(x_2, x_3, x_5) g_{36}(x_3, x_6) \end{aligned}$$

$$\begin{aligned} f(x_{3:6}|y_{1:3}) &= c \left[\sum_{x_2} \tilde{g}_{245}(x_2, x_4, x_5) g_{235}(x_2, x_3, x_5) \right] g_{36}(x_3, x_6) \\ &= c \tilde{g}_{345}(x_3, x_4, x_5) g_{36}(x_3, x_6) \end{aligned}$$

$$f(x_{4:6}|y_{1:3}) = c \sum_{x_3} \tilde{g}_{345}(x_3, x_4, x_5) g_{36}(x_3, x_6) = c \tilde{g}_{456}(x_4, x_5, x_6)$$

$$f(x_{56}|y_{1:3}) = c \sum_{x_4} \tilde{g}_{456}(x_4, x_5, x_6) = \tilde{g}_{56}(x_5, x_6)$$

$$f(x_6|y_{1:3}) = c \sum_{x_5} \tilde{g}_{56}(x_5, x_6) = \tilde{g}_6(x_6)$$

Normalising constant

$$f(x_{1:6}|y_{1:3}) = cg_{12}(x_1, x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$\begin{aligned}f(x_{2:6}|y_{1:3}) &= c \left[\sum_{x_1} g_{12}(x_1, x_2) \right] g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6) \\ &= ch_2(x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6) \\ &= c\tilde{g}_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)\end{aligned}$$

$$\begin{aligned}f(x_{3:6}|y_{1:3}) &= c \left[\sum_{x_2} \tilde{g}_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5) \right] g_{36}(x_3, x_6) \\ &= c\tilde{g}_{345}(x_3, x_4, x_5)g_{36}(x_3, x_6)\end{aligned}$$

$$f(x_{4:6}|y_{1:3}) = c \sum_{x_3} \tilde{g}_{345}(x_3, x_4, x_5)g_{36}(x_3, x_6) = c\tilde{g}_{456}(x_4, x_5, x_6)$$

$$f(x_{56}|y_{1:3}) = c \sum_{x_4} \tilde{g}_{456}(x_4, x_5, x_6) = \tilde{g}_{56}(x_5, x_6)$$

$$f(x_6|y_{1:3}) = c \sum_{x_5} \tilde{g}_{56}(x_5, x_6) = \tilde{g}_6(x_6)$$

$$1 = c \sum_{x_6} \tilde{g}_6(x_6) \Rightarrow c = 1 / \sum_{x_6} \tilde{g}_6(x_6)$$

Normalising constant (better alternative)

$$f(x_{1:6}|y_{1:3}) = cg_{12}(x_1, x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

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$$f(x_{2:6}|y_{1:3}) =$$

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$$f(x_{1:6}|y_{1:3}) = c g_{12}(x_1, x_2) g_{245}(x_2, x_4, x_5) g_{235}(x_2, x_3, x_5) g_{36}(x_3, x_6)$$

$$f(x_{2:6}|y_{1:3}) = c \left[\sum_{x_1} g_{12}(x_1, x_2) \right] g_{245}(x_2, x_4, x_5) g_{235}(x_2, x_3, x_5) g_{36}(x_3, x_6)$$

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$$\begin{aligned} f(x_{2:6}|y_{1:3}) &= c \left[\sum_{x_1} g_{12}(x_1, x_2) \right] g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6) \\ &= ch_2(x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6) \end{aligned}$$

Normalising constant (better alternative)

$$f(x_{1:6}|y_{1:3}) = cg_{12}(x_1, x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

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$$f(x_{2:6}|y_{1:3}) = c \left[\sum_{x_1} g_{12}(x_1, x_2) \right] g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= ch_2(x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= c\tilde{g}_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{2:3,5:6}|y_{1:3}) = c \left[\sum_{x_4} \tilde{g}_{245}(x_2, x_4, x_5) \right] g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

Normalising constant (better alternative)

$$f(x_{1:6}|y_{1:3}) = cg_{12}(x_1, x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{2:6}|y_{1:3}) = c \left[\sum_{x_1} g_{12}(x_1, x_2) \right] g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= ch_2(x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= c\tilde{g}_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{2:3,5:6}|y_{1:3}) = c \left[\sum_{x_4} \tilde{g}_{245}(x_2, x_4, x_5) \right] g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= ch_{25}(x_2, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

Normalising constant (better alternative)

$$f(x_{1:6}|y_{1:3}) = cg_{12}(x_1, x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{2:6}|y_{1:3}) = c \left[\sum_{x_1} g_{12}(x_1, x_2) \right] g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= ch_2(x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= c\tilde{g}_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{2:3,5:6}|y_{1:3}) = c \left[\sum_{x_4} \tilde{g}_{245}(x_2, x_4, x_5) \right] g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= ch_{25}(x_2, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= c\tilde{g}_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

Normalising constant (better alternative)

$$f(x_{1:6}|y_{1:3}) = cg_{12}(x_1, x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{2:6}|y_{1:3}) = c \left[\sum_{x_1} g_{12}(x_1, x_2) \right] g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= ch_2(x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= c\tilde{g}_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{2:3,5:6}|y_{1:3}) = c \left[\sum_{x_4} \tilde{g}_{245}(x_2, x_4, x_5) \right] g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= ch_{25}(x_2, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= c\tilde{g}_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{3,5:6}|y_{1:3}) = c \left[\sum_{x_2} \tilde{g}_{235}(x_2, x_3, x_5) \right] g_{36}(x_3, x_6)$$

Normalising constant (better alternative)

$$f(x_{1:6}|y_{1:3}) = cg_{12}(x_1, x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{2:6}|y_{1:3}) = c \left[\sum_{x_1} g_{12}(x_1, x_2) \right] g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= ch_2(x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= c\tilde{g}_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{2:3,5:6}|y_{1:3}) = c \left[\sum_{x_4} \tilde{g}_{245}(x_2, x_4, x_5) \right] g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= ch_{25}(x_2, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= c\tilde{g}_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{3,5:6}|y_{1:3}) = c \left[\sum_{x_2} \tilde{g}_{235}(x_2, x_3, x_5) \right] g_{36}(x_3, x_6) = c\tilde{g}_{35}(x_3, x_5)g_{36}(x_3, x_6)$$

Normalising constant (better alternative)

$$f(x_{1:6}|y_{1:3}) = cg_{12}(x_1, x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{2:6}|y_{1:3}) = c \left[\sum_{x_1} g_{12}(x_1, x_2) \right] g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= ch_2(x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= c\tilde{g}_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{2:3,5:6}|y_{1:3}) = c \left[\sum_{x_4} \tilde{g}_{245}(x_2, x_4, x_5) \right] g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= ch_{25}(x_2, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= c\tilde{g}_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{3,5:6}|y_{1:3}) = c \left[\sum_{x_2} \tilde{g}_{235}(x_2, x_3, x_5) \right] g_{36}(x_3, x_6) = c\tilde{g}_{35}(x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{3,6}|y_{1:3}) = c \left[\sum_{x_5} \tilde{g}_{35}(x_3, x_5) \right] g_{36}(x_3, x_6)$$

Normalising constant (better alternative)

$$f(x_{1:6}|y_{1:3}) = cg_{12}(x_1, x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{2:6}|y_{1:3}) = c \left[\sum_{x_1} g_{12}(x_1, x_2) \right] g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= ch_2(x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= c\tilde{g}_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{2:3,5:6}|y_{1:3}) = c \left[\sum_{x_4} \tilde{g}_{245}(x_2, x_4, x_5) \right] g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= ch_{25}(x_2, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= c\tilde{g}_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{3,5:6}|y_{1:3}) = c \left[\sum_{x_2} \tilde{g}_{235}(x_2, x_3, x_5) \right] g_{36}(x_3, x_6) = c\tilde{g}_{35}(x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{3,6}|y_{1:3}) = c \left[\sum_{x_5} \tilde{g}_{35}(x_3, x_5) \right] g_{36}(x_3, x_6) = ch_3(x_3)g_{36}(x_3, x_6)$$

Normalising constant (better alternative)

$$f(x_{1:6}|y_{1:3}) = cg_{12}(x_1, x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{2:6}|y_{1:3}) = c \left[\sum_{x_1} g_{12}(x_1, x_2) \right] g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= ch_2(x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= c\tilde{g}_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{2:3,5:6}|y_{1:3}) = c \left[\sum_{x_4} \tilde{g}_{245}(x_2, x_4, x_5) \right] g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= ch_{25}(x_2, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= c\tilde{g}_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{3,5:6}|y_{1:3}) = c \left[\sum_{x_2} \tilde{g}_{235}(x_2, x_3, x_5) \right] g_{36}(x_3, x_6) = c\tilde{g}_{35}(x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{3,6}|y_{1:3}) = c \left[\sum_{x_5} \tilde{g}_{35}(x_3, x_5) \right] g_{36}(x_3, x_6) = ch_3(x_3)g_{36}(x_3, x_6) = c\tilde{g}_{36}(x_3)$$

Normalising constant (better alternative)

$$f(x_{1:6}|y_{1:3}) = cg_{12}(x_1, x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{2:6}|y_{1:3}) = c \left[\sum_{x_1} g_{12}(x_1, x_2) \right] g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= ch_2(x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= c\tilde{g}_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{2:3,5:6}|y_{1:3}) = c \left[\sum_{x_4} \tilde{g}_{245}(x_2, x_4, x_5) \right] g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= ch_{25}(x_2, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= c\tilde{g}_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{3,5:6}|y_{1:3}) = c \left[\sum_{x_2} \tilde{g}_{235}(x_2, x_3, x_5) \right] g_{36}(x_3, x_6) = c\tilde{g}_{35}(x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{3,6}|y_{1:3}) = c \left[\sum_{x_5} \tilde{g}_{35}(x_3, x_5) \right] g_{36}(x_3, x_6) = ch_3(x_3)g_{36}(x_3, x_6) = c\tilde{g}_{36}(x_3, x_6)$$

$$f(x_6|y_{1:3}) = c \left[\sum \tilde{g}_{36}(x_3, x_6) \right] = \tilde{g}_6(x_6)$$

Normalising constant (better alternative)

$$f(x_{1:6}|y_{1:3}) = cg_{12}(x_1, x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{2:6}|y_{1:3}) = c \left[\sum_{x_1} g_{12}(x_1, x_2) \right] g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= ch_2(x_2)g_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= c\tilde{g}_{245}(x_2, x_4, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{2:3,5:6}|y_{1:3}) = c \left[\sum_{x_4} \tilde{g}_{245}(x_2, x_4, x_5) \right] g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= ch_{25}(x_2, x_5)g_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$= c\tilde{g}_{235}(x_2, x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{3,5:6}|y_{1:3}) = c \left[\sum_{x_2} \tilde{g}_{235}(x_2, x_3, x_5) \right] g_{36}(x_3, x_6) = c\tilde{g}_{35}(x_3, x_5)g_{36}(x_3, x_6)$$

$$f(x_{3,6}|y_{1:3}) = c \left[\sum_{x_5} \tilde{g}_{35}(x_3, x_5) \right] g_{36}(x_3, x_6) = ch_3(x_3)g_{36}(x_3, x_6) = c\tilde{g}_{36}(x_3, x_6)$$

$$f(x_6|y_{1:3}) = c \left[\sum_{x_3} \tilde{g}_{36}(x_3, x_6) \right] = \tilde{g}_6(x_6) \Rightarrow c = 1 / \sum \tilde{g}_6(x_6)$$