

In[*]:= $\mathcal{L}[X_{i,j}[1]] /. \omega_E[\{Q_ , P\theta_ , P1a_ , P1b_ \}] \Rightarrow \text{Factor@px2g}[P\theta P1a]$

Out[*]=

0

In[*]:= $\mathcal{L}[X_{i,j}[1]] /. \{T \rightarrow T_1, p_{i_} \Rightarrow p_{1,i}, x_{i_} \Rightarrow x_{1,i}\}$

Out[*]=

$$\sqrt{T_1} \mathbb{E} \left[\left\{ \begin{aligned} &(-p_{1,i} + p_{1,1+i}) x_{1,i} + (-1 + T_1) (p_{1,1+i} - p_{1,1+j}) x_{1,i} + (-p_{1,j} + p_{1,1+j}) x_{1,j}, \\ &0, 0, \frac{1}{2} \in (-1 + (p_{1,i} - p_{1,j}) x_{1,i} ((-1 + T_1) p_{1,j} x_{1,i} + 2(1 - p_{1,j} x_{1,j}))) \end{aligned} \right\} \right]$$

In[*]:= $\text{CF} \left[\frac{1}{2} \in (-1 + (p_{1,i} - p_{1,j}) x_{1,i} ((-1 + T_1) p_{1,j} x_{1,i} + 2(1 - p_{1,j} x_{1,j}))) \right]$

Out[*]=

$$\begin{aligned} &-\frac{\epsilon}{2} + \epsilon p_{1,i} x_{1,i} - \epsilon p_{1,j} x_{1,i} + \frac{1}{2} \in (-1 + T_1) p_{1,i} p_{1,j} x_{1,i}^2 - \\ &\frac{1}{2} \in (-1 + T_1) p_{1,j}^2 x_{1,i}^2 - \epsilon p_{1,i} p_{1,j} x_{1,i} x_{1,j} + \epsilon p_{1,j}^2 x_{1,i} x_{1,j} \end{aligned}$$

In[*]:= $\mathcal{L}[X_{i,j}[1]] /. \{T \rightarrow T_1, p_{i_} \Rightarrow p_{1,i}, x_{i_} \Rightarrow x_{1,i}\} /. \omega_E[\{Q_ , P\theta_ , P1a_ , P1b_ \}] \Rightarrow$
 $\text{Simplify@g2px}[\text{px2g}[P1b] /. \text{gR}_{1,i,j} /. \{\delta_{i_ , i_} \rightarrow 1, \delta_{i,j} \rightarrow 0, \delta_{j,i} \rightarrow 0\}]$

Out[*]=

$$\begin{aligned} &-\frac{1}{2} \in (1 + T_1^2 p_{1,j^+} (-p_{1,i^+} + p_{1,j^+}) x_{1,i}^2 + \\ &2 p_{1,j^+} x_{1,j} + T_1 p_{1,j^+} x_{1,i} (-2 + p_{1,i^+} (x_{1,i} + 2 x_{1,j}) - p_{1,j^+} (x_{1,i} + 2 x_{1,j}))) \end{aligned}$$

In[*]:= $\mathcal{L}[X_{i,j}[1]] /. \{T \rightarrow T_1, p_{i_} \Rightarrow p_{1,i}, x_{i_} \Rightarrow x_{1,i}\} /. \omega_E[\{Q_ , P\theta_ , P1a_ , P1b_ \}] \Rightarrow$
 $\text{Simplify@g2px}[\text{px2g}[P1b] /. \text{igR}_{1,i,j} /. \{\delta_{i,i^+} \rightarrow 0, \delta_{j,j^+} \rightarrow 0, \delta_{j,i} \rightarrow 0, \delta_{j,i^+} \rightarrow 0, \delta_{i,j^+} \rightarrow 0\}]$

Out[*]=

$$\frac{\epsilon (T_1^2 + p_{1,j} (-p_{1,i} + p_{1,j}) x_{1,i^+}^2 + T_1 (p_{1,i} - p_{1,j}) x_{1,i^+} (-2 + p_{1,j} (x_{1,i^+} + 2 x_{1,j^+})))}{2 T_1^2}$$