

$$\begin{aligned}
(\mathcal{M}_m | \{p, f, c, d\}_m) &\approx \int_{t_2}^{t_f} dt_3 \int_{t_3}^{t_f} dt_4 \cdots \int_{t_{m-1}}^{t_f} dt_m \prod_{k=3}^m \frac{\alpha_s(\mu_R^2)}{\alpha_s(Q^2 e^{-t_k})} \\
&\quad \underbrace{\times (\mathcal{M}_2 | \mathcal{H}^\dagger(t_3) \mathcal{H}^\dagger(t_4) \cdots \mathcal{H}^\dagger(t_m) | \{p, f, c, d\}_m)}_{(\mathcal{A}_m(t_f, t_2) | \{p, f, c, d\}_m)}
\end{aligned}$$