

$$\frac{1}{(2\pi)^4} \int \frac{d^4 k}{(2\pi)^4} \int \frac{d^4 q}{(2\pi)^4} |t^{(j)}|^2 \frac{1}{k^2 - m_1^2 + i\epsilon} \frac{1}{q^2 - m_2^2 + i\epsilon} \frac{M}{E} \frac{1}{p^0 - k^0 - q^0 - E + i\epsilon}$$