

CF [  $\mathbb{E} [\omega_, L_, Q_, P_] ] := \text{Expand} /@ \text{Together} /@$   
 $\mathbb{E} [\omega / . \mathbf{b}_{L_} \Rightarrow \text{Log}[\mathbf{t}_{L_}], L, Q / . \mathbf{b}_{L_} \Rightarrow \text{Log}[\mathbf{t}_{L_}],$   
 $P / . \mathbf{b}_{L_} \Rightarrow \text{Log}[\mathbf{t}_{L_}]];$

$\mathbb{E} /:$   $\mathbb{E} [\omega1_, L1_, Q1_, P1_] \mathbb{E} [\omega2_, L2_, Q2_, P2_] :=$   
CF@ $\mathbb{E} [\omega1 \omega2, L1 + L2, \omega2 Q1 + \omega1 Q2, \omega2^4 P1 + \omega1^4 P2];$