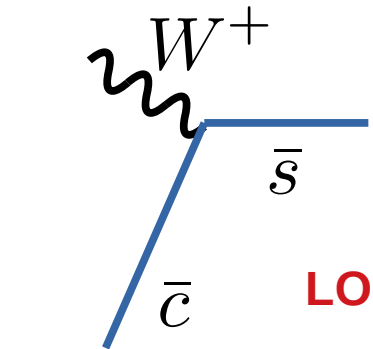
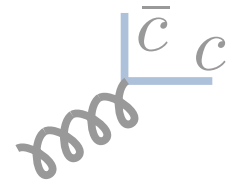


**u-channel**

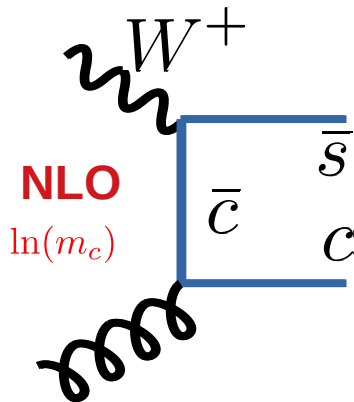


**LO**



$$f_{\bar{c}} \otimes \sigma_{\bar{c}W^+ \rightarrow \bar{s}}$$

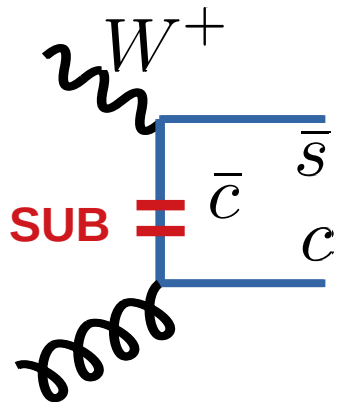
gluon initiated



**NLO**  
 $\ln(m_c)$

$$f_g \otimes \sigma_{gW^+ \rightarrow \bar{s}c}$$

gluon initiated



**SUB**

$\mathcal{P} \sim \ln(m_c)$

$$f_g \otimes \mathcal{P}_{g \rightarrow \bar{c}} \otimes \sigma_{\bar{c}W^+ \rightarrow \bar{s}}$$