

$$\begin{aligned}
 H([cq][\bar{c}\bar{q}']) &= 2m_{[cq]} + 2\kappa_{cq} [S_c \cdot S_q + S_{\bar{c}} \cdot S_{\bar{q}'}] + \\
 &+ 2\kappa_{q\bar{q}} S_q \cdot S_{\bar{q}'} + 2\kappa_{c\bar{q}} [S_c \cdot S_{\bar{q}'} + S_{\bar{c}} \cdot S_q] + 2\kappa_{c\bar{c}} S_c \cdot S_{\bar{c}}
 \end{aligned}$$