	ients	
Σ m	pr	ne
1 a	$I [a, \Sigma p, \Sigma 0, \pi m] ightarrow - 2 fi^2 \ I [a, \Sigma p, \Xi 0, K m] ightarrow - (di + fi)^2 \ I [a, \Sigma p, \Lambda, \pi m] ightarrow - rac{2 di^2}{3}$	$I [a,pr,\Sigma0,Km] ightarrow - rac{1}{2} (di-fi)^2$ $I [a,pr,ne,\pi m] ightarrow - (di+fi)^2$ $I [a,pr,\Lambda,Km] ightarrow - rac{1}{6} (di+3fi)^2$
2b	$\begin{split} & I \left[b, \Sigma p, \Sigma \theta, \pi m \right] \to -\frac{2 \left(\text{c1} \text{difi} \text{Q2-c2} \text{difi} \text{Q2-2} \text{c1} \text{fi}^2 \text{Q2-c2} \text{c2} \text{fi}^2 \text{Q2} \right)}{3 \left(4 \text{mo}^2 + \text{Q2} \right)} \\ & I \left[b, \Sigma p, \Sigma p, \pi \theta \right] \to \frac{2 \text{fi}^2 \left(12 \text{mo}^2 + 4 \text{c1} \text{Q2-c3} \text{Q2} \right)}{3 \left(4 \text{mo}^2 + \text{Q2} \right)} \\ & I \left[b, \Sigma p, \Sigma p, \eta \right] \to \frac{2 \text{di}^2 \left(12 \text{mo}^2 + 4 \text{c1} \text{Q2-c3} \text{Q2} \right)}{9 \left(4 \text{mo}^2 + \text{Q2} \right)} \\ & I \left[b, \Sigma p, pr, \overline{\text{K}\theta} \right] \to \frac{\left(\text{di-fi} \right)^2 \left(12 \text{mo}^2 + 4 \text{c1} \text{Q2-c2} \text{Q2} \right)}{3 \left(4 \text{mo}^2 + \text{Q2} \right)} \\ & I \left[b, \Sigma p, \Xi \theta, \text{Km} \right] \to -\frac{\left(\text{c1-4} \text{c3} \right) \left(\text{di+fi} \right)^2 \text{Q2}}{3 \left(4 \text{mo}^2 + \text{Q2} \right)} \\ & I \left[b, \Sigma p, \Lambda, \pi m \right] \to \frac{2 \left(\text{c3} \text{di}^2 \text{Q2-c1} \text{difi} \text{fi} \text{Q2+c2} \text{difi} \text{Q2}}{3 \left(4 \text{mo}^2 + \text{Q2} \right)} \end{split}$	$\begin{split} &\text{I} [\text{b,pr,}\Sigma \emptyset, \text{Km}] \rightarrow \frac{1}{6 \left(4 \text{mo}^2 + \text{Q2} \right)} \\ & \left(\text{c1} \text{di}^2 \text{Q2} + 3 \text{c2} \text{di}^2 \text{Q2} - \text{c3} \text{di}^2 \text{Q2} - 6 \text{c1} \text{di} \text{fi} \text{Q2} - 2 \text{c2} \text{di} \text{fi} \text{Q2} + \\ & 2 \text{c3} \text{di} \text{fi} \text{Q2} + 5 \text{c1} \text{fi}^2 \text{Q2} - \text{c2} \text{fi}^2 \text{Q2} - \text{c3} \text{fi}^2 \text{Q2} \right) \\ &\text{I} [\text{b,pr,}\Sigma p, \text{K}\emptyset] \rightarrow \frac{(\text{di-fi})^2 \left(12 \text{mo}^2 + 4 \text{c1} \text{Q2} - \text{c3} \text{Q2} \right)}{3 \left(4 \text{mo}^2 + \text{Q2} \right)} \\ &\text{I} [\text{b,pr,pr,}\pi \emptyset] \rightarrow \frac{(\text{di-fi})^2 \left(12 \text{mo}^2 + 4 \text{c1} \text{Q2} - \text{c2} \text{Q2} \right)}{6 \left(4 \text{mo}^2 + \text{Q2} \right)} \\ &\text{I} [\text{b,pr,pr,}\eta] \rightarrow \frac{(\text{di-3} \text{fi})^2 \left(12 \text{mo}^2 + 4 \text{c1} \text{Q2} - \text{c2} \text{Q2} \right)}{18 \left(4 \text{mo}^2 + \text{Q2} \right)} \\ &\text{I} [\text{b,pr,ne,}\pi m] \rightarrow - \frac{(\text{c1} - 4 \text{c2}) \left(\text{di+fi} \right)^2 \text{Q2}}{3 \left(4 \text{mo}^2 + \text{Q2} \right)} \\ &\text{I} [\text{b,pr,}\Lambda, \text{Km}] \rightarrow \frac{1}{6 \left(4 \text{mo}^2 + \text{Q2} \right)} \\ &\left(-\text{c1} \text{di}^2 \text{Q2} + \text{c2} \text{di}^2 \text{Q2} + \text{c3} \text{di}^2 \text{Q2} - 2 \text{c1} \text{di} \text{fi} \text{Q2} + 2 \text{c2} \text{di} \text{fi} \text{Q2} + \\ & 6 \text{c3} \text{di} \text{fi} \text{Q2} + 3 \text{c1} \text{fi}^2 \text{Q2} - 3 \text{c2} \text{fi}^2 \text{Q2} + 9 \text{c3} \text{fi}^2 \text{Q2} \right) \end{split}$
3c	$\begin{split} &\mathbf{I}\left[\text{C}, \Sigma \text{p}, \Sigma \text{0}, \pi \text{m}\right] \to -\frac{16 \left(\text{c1} \text{difi-c2} \text{difi-2} \text{c1} \text{fi}^2 - 2 \text{c2} \text{fi}^2 + \text{c3} \text{fi}^2\right) \text{mo}^2}{3 \left(4 \text{mo}^2 + \text{Q2}\right)} \\ &\mathbf{I}\left[\text{C}, \Sigma \text{p}, \Sigma \text{p}, \pi \text{0}\right] \to \frac{16 \left(-3 + 4 \text{c1-c3}\right) \text{fi}^2 \text{mo}^2}{3 \left(4 \text{mo}^2 + \text{Q2}\right)} \\ &\mathbf{I}\left[\text{C}, \Sigma \text{p}, \Sigma \text{p}, \eta\right] \to \frac{16 \left(-3 + 4 \text{c1-c3}\right) \text{di}^2 \text{mo}^2}{9 \left(4 \text{mo}^2 + \text{Q2}\right)} \\ &\mathbf{I}\left[\text{C}, \Sigma \text{p}, \text{pr}, \overline{\text{K0}}\right] \to \frac{8 \left(-3 + 4 \text{c1-c2}\right) \left(\text{di-fi}\right)^2 \text{mo}^2}{3 \left(4 \text{mo}^2 + \text{Q2}\right)} \\ &\mathbf{I}\left[\text{C}, \Sigma \text{p}, \Xi \text{0}, \text{Km}\right] \to -\frac{8 \left(\text{c1-4} \text{c3}\right) \left(\text{di+fi}\right)^2 \text{mo}^2}{3 \left(4 \text{mo}^2 + \text{Q2}\right)} \\ &\mathbf{I}\left[\text{C}, \Sigma \text{p}, \Lambda, \pi \text{m}\right] \to \frac{16 \left(\text{c3} \text{di}^2 - \text{c1} \text{di} \text{fi+c2} \text{difi}\right) \text{mo}^2}{3 \left(4 \text{mo}^2 + \text{Q2}\right)} \end{split}$	$\begin{split} &\mathbf{I}\left[\texttt{c,pr,}\Sigma\boldsymbol{0},\texttt{Km}\right] \to \frac{1}{3\left(4\text{mo}^2+\text{Q2}\right)} \\ &4\left(\texttt{c1}\text{di}^2 + 3\texttt{c2}\text{di}^2 - \texttt{c3}\text{di}^2 - 6\texttt{c1}\text{di}\text{fi} - \\ &2\texttt{c2}\text{di}\text{fi} + 2\texttt{c3}\text{di}\text{fi} + 5\texttt{c1}\text{fi}^2 - \texttt{c2}\text{fi}^2 - \texttt{c3}\text{fi}^2\right)\text{mo}^2 \\ &\mathbf{I}\left[\texttt{c,pr,}\Sigma\textbf{p,}K\boldsymbol{0}\right] \to \frac{8\left(-3+4\text{c1-c3}\right)\left(\text{di-fi}\right)^2\text{mo}^2}{3\left(4\text{mo}^2+\text{Q2}\right)} \\ &\mathbf{I}\left[\texttt{c,pr,pr,}\pi\boldsymbol{0}\right] \to \frac{4\left(-3+4\text{c1-c2}\right)\left(\text{di+fi}\right)^2\text{mo}^2}{3\left(4\text{mo}^2+\text{Q2}\right)} \\ &\mathbf{I}\left[\texttt{c,pr,pr,}\eta\right] \to \frac{4\left(-3+4\text{c1-c2}\right)\left(\text{di-3}\text{fi}\right)^2\text{mo}^2}{9\left(4\text{mo}^2+\text{Q2}\right)} \\ &\mathbf{I}\left[\texttt{c,pr,ne,}\pi\textbf{m}\right] \to -\frac{8\left(\text{c1-4}\text{c2}\right)\left(\text{di+fi}\right)^2\text{mo}^2}{3\left(4\text{mo}^2+\text{Q2}\right)} \\ &\mathbf{I}\left[\texttt{c,pr,}\Lambda,\texttt{Km}\right] \to \\ &-\frac{1}{3\left(4\text{mo}^2+\text{Q2}\right)} 4\left(\text{c1}\text{di}^2-\text{c2}\text{di}^2-\text{c3}\text{di}^2+2\text{c1}\text{di}\text{fi}-2}\right) \\ &2\texttt{c2}\text{di}\text{fi}-6\text{c3}\text{di}\text{fi}-3\text{c1}\text{fi}^2+3\text{c2}\text{fi}^2-9\text{c3}\text{fi}^2}\right)\text{mo}^2 \end{split}$
4de	$\begin{split} &\textbf{I}\left[de,\boldsymbol{\Sigma}p,\boldsymbol{\Sigma}\boldsymbol{0},\boldsymbol{\pi}m\right]\to -2\mathbf{fi}^2\\ &\textbf{I}\left[de,\boldsymbol{\Sigma}p,\boldsymbol{\Xi}\boldsymbol{0},Km\right]\to -\left(di+fi\right)^2\\ &\textbf{I}\left[de,\boldsymbol{\Sigma}p,\boldsymbol{\Lambda},\boldsymbol{\pi}m\right]\to -\frac{2di^2}{3} \end{split}$	$I[de,pr,\Sigma0,Km] \rightarrow -\frac{1}{2} (di-fi)^2$ $I[de,pr,ne,\pi m] \rightarrow -(di+fi)^2$ $I[de,pr,\Lambda,Km] \rightarrow -\frac{1}{6} (di+3fi)^2$
5fg	$\begin{split} &\textbf{I}\left[\texttt{fg,}\Sigma \texttt{p,}\Sigma \texttt{0,}\pi \texttt{m}\right] \rightarrow -2 \texttt{fi}^2 \\ &\textbf{I}\left[\texttt{fg,}\Sigma \texttt{p,}\Xi \texttt{0,}K \texttt{m}\right] \rightarrow -\left(\texttt{di}+\texttt{fi}\right)^2 \\ &\textbf{I}\left[\texttt{fg,}\Sigma \texttt{p,}\Lambda,\pi \texttt{m}\right] \rightarrow -\frac{2 \texttt{di}^2}{3} \end{split}$	I [fg,pr, Σ 0,Km] $\rightarrow -\frac{1}{2}$ (di – fi) 2 I [fg,pr,ne, π m] $\rightarrow -$ (di + fi) 2 I [fg,pr, Λ ,Km] $\rightarrow -\frac{1}{6}$ (di + 3 fi) 2
6h	$egin{aligned} &\mathbf{I}\left[h,\Sigmap,\Deltapp,Kp ight] ightarrow\mathbf{ci}^2\ &\mathbf{I}\left[h,\Sigmap,\Sigmas0,\pim ight] ightarrow-rac{\mathtt{ci}^2}{6}\ &\mathbf{I}\left[h,\Sigmap,\Xis0,Km ight] ightarrow-rac{\mathtt{ci}^2}{3} \end{aligned}$	$egin{aligned} &\mathbf{I}\left[h,pr,\Delta0,\pim ight] ightarrow-rac{ci^2}{3}\ &\mathbf{I}\left[h,pr,\Deltapp,\pip ight] ightarrow\mathbf{ci}^2\ &\mathbf{I}\left[h,pr,\Sigmas0,Km ight] ightarrow-rac{ci^2}{6} \end{aligned}$
7i	$\begin{split} &\mathbf{I}\left[\mathtt{i}, \boldsymbol{\Sigma} \mathtt{p}, \boldsymbol{\Delta} \mathtt{p}, \overline{KO}\right] \rightarrow \frac{ci^2\left(4md^2 + 2c1Q2 + c2Q2\right)}{6\left(4md^2 + Q2\right)} \\ &\mathbf{I}\left[\mathtt{i}, \boldsymbol{\Sigma} \mathtt{p}, \boldsymbol{\Delta} \mathtt{pp}, Kp\right] \rightarrow \frac{ci^2\left(8md^2 + 3c1Q2\right)}{2\left(4md^2 + Q2\right)} \\ &\mathbf{I}\left[\mathtt{i}, \boldsymbol{\Sigma} \mathtt{p}, \boldsymbol{\Sigma} \mathtt{SO}, \boldsymbol{\pi} \mathtt{m}\right] \rightarrow \frac{(c1 + c2 + c3)ci^2Q2}{12\left(4md^2 + Q2\right)} \\ &\mathbf{I}\left[\mathtt{i}, \boldsymbol{\Sigma} \mathtt{p}, \boldsymbol{\Sigma} \mathtt{sp}, \boldsymbol{\pi} \boldsymbol{O}\right] \rightarrow \frac{ci^2\left(4md^2 + 2c1Q2 + c3Q2\right)}{12\left(4md^2 + Q2\right)} \\ &\mathbf{I}\left[\mathtt{i}, \boldsymbol{\Sigma} \mathtt{p}, \boldsymbol{\Sigma} \mathtt{sp}, \boldsymbol{\eta}\right] \rightarrow \frac{ci^2\left(4md^2 + 2c1Q2 + c3Q2\right)}{4\left(4md^2 + Q2\right)} \\ &\mathbf{I}\left[\mathtt{i}, \boldsymbol{\Sigma} \mathtt{p}, \boldsymbol{\Xi} \mathtt{so}, Km\right] \rightarrow \frac{(c1 + 2c3)ci^2Q2}{6\left(4md^2 + Q2\right)} \end{split}$	$\begin{split} &\mathbf{I}\left[\texttt{i,pr,}\triangle \textbf{0,}\pi \textbf{m}\right] \to \frac{(\texttt{c1+2 c2}) \ \texttt{ci}^2 \ \texttt{Q2}}{6 \ \left(4 \ \text{md}^2 + \texttt{Q2}\right)} \\ &\mathbf{I}\left[\texttt{i,pr,}\triangle \textbf{p,}\pi \textbf{0}\right] \to \frac{\texttt{ci}^2 \ \left(4 \ \text{md}^2 + 2 \ \texttt{c1} \ \texttt{Q2+c2} \ \texttt{Q2}\right)}{3 \ \left(4 \ \text{md}^2 + \texttt{Q2}\right)} \\ &\mathbf{I}\left[\texttt{i,pr,}\triangle \textbf{pp,}\pi \textbf{p}\right] \to \frac{\texttt{ci}^2 \ \left(8 \ \text{md}^2 + 3 \ \text{c1} \ \texttt{Q2}\right)}{2 \ \left(4 \ \text{md}^2 + \texttt{Q2}\right)} \\ &\mathbf{I}\left[\texttt{i,pr,}\Sigma \textbf{s0,}K \textbf{m}\right] \to \frac{(\texttt{c1+c2+c3)} \ \texttt{ci}^2 \ \texttt{Q2}}{12 \ \left(4 \ \text{md}^2 + \texttt{Q2}\right)} \\ &\mathbf{I}\left[\texttt{i,pr,}\Sigma \textbf{sp,}K \textbf{0}\right] \to \frac{\texttt{ci}^2 \ \left(4 \ \text{md}^2 + 2 \ \text{c1} \ \texttt{Q2+c3} \ \text{Q2}\right)}{6 \ \left(4 \ \text{md}^2 + \texttt{Q2}\right)} \end{split}$
8j	$\begin{split} &\mathbf{I}\left[\texttt{j}, \Sigma \texttt{p}, \Delta \texttt{p}, \overline{\texttt{K0}}\right] \to \frac{2 \; (-1 + 2 \text{c1} + \text{c2}) \; \text{ci}^2 \text{md}^2}{3 \; (-1 + \text{c1}) \; \left(4 \text{md}^2 + \text{Q2}\right)} \\ &\mathbf{I}\left[\texttt{j}, \Sigma \texttt{p}, \Delta \texttt{pp}, Kp\right] \to \frac{2 \; (-2 + 3 \text{c1}) \; \text{ci}^2 \text{md}^2}{(-1 + \text{c1}) \; \left(4 \text{md}^2 + \text{Q2}\right)} \\ &\mathbf{I}\left[\texttt{j}, \Sigma \texttt{p}, \Sigma \texttt{s0}, \pi \texttt{m}\right] \to \frac{(\text{c1} + \text{c2} + \text{c3}) \; \text{ci}^2 \text{md}^2}{3 \; (-1 + \text{c1}) \; \left(4 \text{md}^2 + \text{Q2}\right)} \\ &\mathbf{I}\left[\texttt{j}, \Sigma \texttt{p}, \Sigma \texttt{sp}, \pi \texttt{0}\right] \to \frac{(-1 + 2 \text{c1} + \text{c3}) \; \text{ci}^2 \text{md}^2}{3 \; (-1 + \text{c1}) \; \left(4 \text{md}^2 + \text{Q2}\right)} \\ &\mathbf{I}\left[\texttt{j}, \Sigma \texttt{p}, \Sigma \texttt{sp}, \eta\right] \to \frac{(-1 + 2 \text{c1} + \text{c3}) \; \text{ci}^2 \text{md}^2}{(-1 + \text{c1}) \; \left(4 \text{md}^2 + \text{Q2}\right)} \\ &\mathbf{I}\left[\texttt{j}, \Sigma \texttt{p}, \Xi \texttt{s0}, Km\right] \to \frac{2 \; (\text{c1} + 2 \text{c3}) \; \text{ci}^2 \text{md}^2}{3 \; (-1 + \text{c1}) \; \left(4 \text{md}^2 + \text{Q2}\right)} \end{split}$	$\begin{split} &\mathbf{I}\left[\texttt{j,pr,}\triangle\emptyset,\pim\right] \to \frac{2\;(c1+2\;c2)\;ci^2\;md^2}{3\;(-1+c1)\;\left(4\;md^2+Q^2\right)} \\ &\mathbf{I}\left[\texttt{j,pr,}\trianglep,\pi\emptyset\right] \to \frac{4\;(-1+2\;c1+c2)\;ci^2\;md^2}{3\;(-1+c1)\;\left(4\;md^2+Q^2\right)} \\ &\mathbf{I}\left[\texttt{j,pr,}\trianglepp,\pip\right] \to \frac{2\;(-2+3\;c1)\;ci^2\;md^2}{(-1+c1)\;\left(4\;md^2+Q^2\right)} \\ &\mathbf{I}\left[\texttt{j,pr,}\Sigmas\emptyset,Km\right] \to \frac{(c1+c2+c3)\;ci^2\;md^2}{3\;(-1+c1)\;\left(4\;md^2+Q^2\right)} \\ &\mathbf{I}\left[\texttt{j,pr,}\Sigmas\emptyset,Km\right] \to \frac{(c1+c2+c3)\;ci^2\;md^2}{3\;(-1+c1)\;\left(4\;md^2+Q^2\right)} \\ &\mathbf{I}\left[\texttt{j,pr,}\Sigmasp,K\emptyset\right] \to \frac{2\;(-1+2\;c1+c3)\;ci^2\;md^2}{3\;(-1+c1)\;\left(4\;md^2+Q^2\right)} \end{split}$
9k1	$\begin{split} & \text{I}\left[\text{kl}, \Sigma \text{p}, \Delta \text{p}, \text{pr}, \overline{\text{KO}}\right] \rightarrow \frac{(\text{c1-c2}) \text{ ci } (\text{di-fi}) \text{ md}}{\text{c1 mo}} \\ & \text{I}\left[\text{kl}, \Sigma \text{p}, \Sigma \text{s0}, \Sigma \text{0}, \pi \text{m}\right] \rightarrow \frac{(\text{c1+c2-2 c3}) \text{ ci fi md}}{2 \text{c1 mo}} \\ & \text{I}\left[\text{kl}, \Sigma \text{p}, \Sigma \text{s0}, \Lambda, \pi \text{m}\right] \rightarrow \frac{(\text{c1-c2}) \text{ ci di md}}{2 \text{c1 mo}} \\ & \text{I}\left[\text{kl}, \Sigma \text{p}, \Sigma \text{sp}, \Sigma \text{p}, \pi \text{0}\right] \rightarrow \frac{(\text{c1-c3}) \text{ ci fi md}}{\text{c1 mo}} \\ & \text{I}\left[\text{kl}, \Sigma \text{p}, \Sigma \text{sp}, \Sigma \text{p}, \pi\right] \rightarrow \frac{(\text{c1-c3}) \text{ ci di md}}{\text{c1 mo}} \\ & \text{I}\left[\text{kl}, \Sigma \text{p}, \Xi \text{s0}, \Xi \text{0}, \text{Km}\right] \rightarrow \frac{(\text{c1-c3}) \text{ ci } (\text{di+fi}) \text{ md}}{\text{c1 mo}} \end{split}$	$\begin{split} &\mathbf{I}\left[kl,pr,\Delta\boldsymbol{0},ne,\pim\right] \to \frac{(c1-c2)\;ci\;(di+fi)\;md}{c1\;mo}\\ &\mathbf{I}\left[kl,pr,\Deltap,pr,\pi\boldsymbol{0}\right] \to \frac{(c1-c2)\;ci\;(di+fi)\;md}{c1\;mo}\\ &\mathbf{I}\left[kl,pr,\Sigmas0,\Sigma\boldsymbol{0},Km\right] \to \frac{(c1+c2-2\;c3)\;ci\;(di-fi)\;md}{4\;c1\;mo}\\ &\mathbf{I}\left[kl,pr,\Sigmas0,\Lambda,Km\right] \to \frac{(c1-c2)\;ci\;(di+3\;fi)\;md}{4\;c1\;mo}\\ &\mathbf{I}\left[kl,pr,\Sigmasp,\Sigmap,K0\right] \to \frac{(c1-c3)\;ci\;(di-fi)\;md}{c1\;mo} \end{split}$
10mn	$\begin{split} &\mathbf{I}\left[mn, \Sigma p, \Delta pp, Kp\right] \to ci^2 \\ &\mathbf{I}\left[mn, \Sigma p, \Sigma s0, \pi m\right] \to -\frac{ci^2}{6} \\ &\mathbf{I}\left[mn, \Sigma p, \Xi s0, Km\right] \to -\frac{ci^2}{3} \end{split}$	$egin{aligned} &\mathbf{I}\left[mn,pr,\Delta0,\pi\mathbf{m} ight] ightarrow-rac{\mathtt{ci}^2}{3}\ &\mathbf{I}\left[mn,pr,\Deltapp,\pip ight] ightarrow\mathbf{ci}^2\ &\mathbf{I}\left[mn,pr,\Sigmas0,Km ight] ightarrow-rac{\mathtt{ci}^2}{6} \end{aligned}$
11 op	$egin{aligned} &\mathbf{I}\left[op,\Sigmap,\Deltapp,Kp ight] ightarrow\mathbf{ci}^2\ &\mathbf{I}\left[op,\Sigmap,\Sigmas0,\pim ight] ightarrow-rac{ci^2}{6}\ &\mathbf{I}\left[op,\Sigmap,\Xis0,Km ight] ightarrow-rac{ci^2}{3} \end{aligned}$	$egin{aligned} &\mathbf{I}\left[op,pr,\Delta0,\pim ight] ightarrow-rac{ci^2}{3}\ &\mathbf{I}\left[op,pr,\Deltapp,\pip ight] ightarrowci^2\ &\mathbf{I}\left[op,pr,\Sigmas0,Km ight] ightarrow-rac{ci^2}{6} \end{aligned}$