$$\Big\{ \mathcal{A}^i_{\ ka}\, h^{\ a}_j - \mathcal{A}^i_{\ ja}\, h^{\ a}_k +$$

$$h^{\ a}_j\, h^{\ a1}_k\, \partial_{ab} b^i_{\ a1} - h^{\ a}_j\, h^{\ a1}_k\, \partial_{a1} b^i_{\ a},$$

$$\tfrac{1}{2}\, \pi_{\mathcal{A} ja1}^{\quad b}\ b^{\ a}_i\, \hat{\gamma}_{ab}\, n^{a1} - \tfrac{1}{2}\, \pi_{\mathcal{A} ia1}^{\quad b}\ b^{\ a}_j\, \hat{\gamma}_{ab}\, n^{a1},$$

$$-\tfrac{1}{2}\, \mathcal{A}_j^{\ b1c}\, \pi_{\mathcal{A} bb1}^{\quad c1}\ b^{\ a}_i\, \hat{\gamma}_{ac1}\, \hat{\gamma}_{a1c}\, h_z^{\ a1}\, n^b +$$

$$\tfrac{1}{2}\, \mathcal{A}_i^{\ b1c}\, \pi_{\mathcal{A} bb1}^{\quad c1}\ b^{\ a}_j\, \hat{\gamma}_{ac1}\, \hat{\gamma}_{a1c}\, h_z^{\ a1}\, n^b -$$

$$\tfrac{1}{2}\, \mathcal{A}_{ja}^{\ \ c}\, \pi_{\mathcal{A} ib1}^{\quad c1}\ b^{aa1}\, \hat{\gamma}_{a1c1}\, \hat{\gamma}_{bc}\, h_z^{\ b}\, n^{b1} +$$

$$\tfrac{1}{2}\, \mathcal{A}_{ia}^{\ \ c}\, \pi_{\mathcal{A} jb1}^{\quad c1}\ b^{aa1}\, \hat{\gamma}_{a1c1}\, \hat{\gamma}_{bc}\, h_z^{\ b}\, n^{b1} -$$

$$\tfrac{1}{2}\, \mathcal{A}_b^{\ cc1}\, \pi_{\mathcal{A} b1c}^{\quad d}\ b^{\ a}_j\, \hat{\gamma}_{ad}\, \hat{\gamma}_{a1c1}\, h_z^{\ a1}\, n^b\, n^{b1}\, n_i +$$

$$\tfrac{1}{2}\, \mathcal{A}_{ab1}^{\ \ c1}\, \pi_{\mathcal{A} jc}^{\quad d}\ b^{aa1}\, \hat{\gamma}_{a1d}\, \hat{\gamma}_{bc1}\, h_z^{\ b}\, n^{b1}\, n^c\, n_i +$$

$$\tfrac{1}{2}\, \mathcal{A}_b^{\ cc1}\, \pi_{\mathcal{A} b1c}^{\quad d}\ b^{\ a}_i\, \hat{\gamma}_{ad}\, \hat{\gamma}_{a1c1}\, h_z^{\ a1}\, n^b\, n^{b1}\, n_j -$$

$$\tfrac{1}{2}\, \mathcal{A}_{ab1}^{\ \ c1}\, \pi_{\mathcal{A} ic}^{\quad d}\ b^{aa1}\, \hat{\gamma}_{a1d}\, \hat{\gamma}_{bc1}\, h_z^{\ b}\, n^{b1}\, n^c\, n_j +$$

$$\tfrac{1}{2}\, \mathcal{A}_j^{\ cc1}\, \pi_{\mathcal{A} b1c}^{\quad d}\ b^{\ a}_i\, \hat{\gamma}_{ad}\, \hat{\gamma}_{bc1}\, h^{a1b}\, n_{a1}\, n^{b1}\, n_z -$$

$$\tfrac{1}{2}\, \mathcal{A}_i^{\ cc1}\, \pi_{\mathcal{A} b1c}^{\quad d}\ b^{\ a}_j\, \hat{\gamma}_{ad}\, \hat{\gamma}_{bc1}\, h^{a1b}\, n_{a1}\, n^{b1}\, n_z +$$

$$\tfrac{1}{2}\, \mathcal{A}_{ja}^{\ \ c1}\, \pi_{\mathcal{A} ic}^{\quad d}\ b^{aa1}\, \hat{\gamma}_{a1d}\, \hat{\gamma}_{b1c1}\, h^{bb1}\, n_b\, n^c\, n_z -$$

$$\tfrac{1}{2}\, \mathcal{A}_{ia}^{\ \ c1}\, \pi_{\mathcal{A} jc}^{\quad d}\ b^{aa1}\, \hat{\gamma}_{a1d}\, \hat{\gamma}_{b1c1}\, h^{bb1}\, n_b\, n^c\, n_z +$$

$$\tfrac{1}{2}\, \mathcal{A}_{b1}^{\ c1d}\, \pi_{\mathcal{A} cc1}^{\quad d1}\ b^{\ a}_j\, \hat{\gamma}_{ad1}\, \hat{\gamma}_{b1d}\, h^{a1b}\, n_{a1}\, n^{b1}$$

$$n^c\, n_i\, n_z - \tfrac{1}{2}\, \mathcal{A}_{ac}^{\ \ d}\, \pi_{\mathcal{A} jc1}^{\quad d1}\ b^{aa1}\, \hat{\gamma}_{a1d1}\, \hat{\gamma}_{b1d}$$

$$h^{bb1}\, n_b\, n^c\, n^{c1}\, n_i\, n_z - \tfrac{1}{2}\, \mathcal{A}_{b1}^{\ c1d}\, \pi_{\mathcal{A} cc1}^{\quad d1}$$

$$b^{\ a}_i\, \hat{\gamma}_{ad1}\, \hat{\gamma}_{b1d}\, h^{a1b}\, n_{a1}\, n^{b1}\, n^c\, n_j\, n_z +$$

$$\tfrac{1}{2}\, \mathcal{A}_{ac}^{\ \ d}\, \pi_{\mathcal{A} ic1}^{\quad d1}\ b^{aa1}\, \hat{\gamma}_{a1d1}\, \hat{\gamma}_{b1d}\, h^{bb1}\, n_b\, n^c$$

$$n^{c1}\, n_j\, n_z + \tfrac{1}{2}\, \pi_{\mathcal{A} ja1}^{\quad c}\ \hat{\gamma}_{ab1}\, \hat{\gamma}_{bc}\, h_z^{\ a}\, n^{a1}\, \partial^{b1} b^b_{\ i} -$$

$$\tfrac{1}{2}\, \pi_{\mathcal{A} ia1}^{\quad c}\ \hat{\gamma}_{ab1}\, \hat{\gamma}_{bc}\, h_z^{\ a}\, n^{a1}\, \partial^{b1} b^b_{\ j} -$$

$$\tfrac{1}{2}\, b^{\ a}_j\, \hat{\gamma}_a^{\ b1}\, \hat{\gamma}_{a1}^{\ c}\, h_z^{\ a1}\, n^b\, \partial_c \pi_{\mathcal{A} ibb1} +$$

$$\tfrac{1}{2}\, b^{\ a}_i\, \hat{\gamma}_a^{\ b1}\, \hat{\gamma}_{a1}^{\ c}\, h_z^{\ a1}\, n^b\, \partial_c \pi_{\mathcal{A} jbb1} -$$

$$\tfrac{1}{2}\, \pi_{\mathcal{A} jb}^{\quad c1}\ \hat{\gamma}_{ac}\, \hat{\gamma}_{b1c1}\, h_z^{\ a}\, n^{a1}\, n^b\, n_i\, \partial^c b_{a1}^{\ b1} +$$

$$\tfrac{1}{2}\, \pi_{\mathcal{A} ib}^{\quad c1}\ \hat{\gamma}_{ac}\, \hat{\gamma}_{b1c1}\, h_z^{\ a}\, n^{a1}\, n^b\, n_j\, \partial^c b_{a1}^{\ b1} -$$

$$\tfrac{1}{2}\, \pi_{\mathcal{A} jb}^{\quad c1}\ \hat{\gamma}_{a1c}\, \hat{\gamma}_{b1c1}\, h^{aa1}\, n_a\, n^b\, n_z\, \partial^c b_i^{\ b1} +$$

$$\tfrac{1}{2}\, \pi_{\mathcal{A} ib}^{\quad c1}\ \hat{\gamma}_{a1c}\, \hat{\gamma}_{b1c1}\, h^{aa1}\, n_a\, n^b\, n_z\, \partial^c b_j^{\ b1} +$$

$$\tfrac{1}{2}\, b^{\ a}_j\, \hat{\gamma}_a^{\ c}\, \hat{\gamma}_b^{\ c1}\, h^{a1b}\, n_{a1}\, n^{b1}\, n_z\, \partial_{c1} \pi_{\mathcal{A} ib1c} -$$

$$\tfrac{1}{2}\, b^{\ a}_i\, \hat{\gamma}_a^{\ c}\, \hat{\gamma}_b^{\ c1}\, h^{a1b}\, n_{a1}\, n^{b1}\, n_z\, \partial_{c1} \pi_{\mathcal{A} jb1c} +$$

$$\tfrac{1}{2}\, \pi_{\mathcal{A} jb1}^{\quad d}\ \hat{\gamma}_{a1c1}\, \hat{\gamma}_{cd}\, h^{aa1}\, n_a\, n^b$$

$$n^{b1}\, n_i\, n_z\, \partial^{c1} b_b^{\ c} - \tfrac{1}{2}\, \pi_{\mathcal{A} ib1}^{\quad d}\ \hat{\gamma}_{a1c1}$$

$$\hat{\gamma}_{cd}\, h^{aa1}\, n_a\, n^b\, n^{b1}\, n_j\, n_z\, \partial^{c1} b_b^{\ c} -$$

$$\tfrac{1}{2}\, \pi_{\mathcal{A} jb}^{\quad d}\ b^{\ a}_i\, \hat{\gamma}_{ad}\, \hat{\gamma}_{a1c1}\, h^{bb1}\, h_z^{\ a1}\, n^c\, \partial^{c1} b_{cb1} +$$

$$\tfrac{1}{2}\, \pi_{\mathcal{A} ib}^{\quad d}\ b^{\ a}_j\, \hat{\gamma}_{ad}\, \hat{\gamma}_{a1c1}\, h^{bb1}\, h_z^{\ a1}\, n^c\, \partial^{c1} b_{cb1} +$$

$$\tfrac{1}{2}\, \pi_{\mathcal{A} jc1}^{\quad d1}\ b^{\ a}_i\, \hat{\gamma}_{ad1}\, \hat{\gamma}_{a1d}\, h^{bb1}\, h_z^{\ a1}\, n_b\, n^c$$

$$n^{c1}\, \partial^d b_{cb1} - \tfrac{1}{2}\, \pi_{\mathcal{A} ic1}^{\quad d1}\ b^{\ a}_j\, \hat{\gamma}_{ad1}\, \hat{\gamma}_{a1d}\, h^{bb1}$$

$$h_z^{\ a1}\, n_b\, n^c\, n^{c1}\, \partial^d b_{cb1} + \tfrac{1}{2}\, \pi_{\mathcal{A} bc1}^{\quad d1}\ b^{\ a}_j$$

$$\hat{\gamma}_{ad1}\, \hat{\gamma}_{a1d}\, h^{bb1}\, h_z^{\ a1}\, n^c\, n^{c1}\, n_i\, \partial^d b_{cb1} -$$

$$\tfrac{1}{2}\, \pi_{\mathcal{A} bc1}^{\quad d1}\ b^{\ a}_i\, \hat{\gamma}_{ad1}\, \hat{\gamma}_{a1d}\, h^{bb1}\, h_z^{\ a1}\, n^c$$

$$n^{c1}\, n_j\, \partial^d b_{cb1} + \tfrac{1}{2}\, \pi_{\mathcal{A} jb1}^{\quad d1}\ b^{\ a}_i\, \hat{\gamma}_{ad1}\, \hat{\gamma}_{bd}$$

$$h^{a1b}\, h^{b1c}\, n_{a1}\, n^{c1}\, n_z\, \partial^d b_{c1c} - \tfrac{1}{2}\, \pi_{\mathcal{A} ib1}^{\quad d1}$$

$$b^{\ a}_j\, \hat{\gamma}_{ad1}\, \hat{\gamma}_{bd}\, h^{a1b}\, h^{b1c}\, n_{a1}\, n^{c1}\, n_z\, \partial^d b_{c1c} -$$

$$\tfrac{1}{2}\, \pi_{\mathcal{A} jd}^{\quad e}\ b^{\ a}_i\, \hat{\gamma}_{ae}\, \hat{\gamma}_{cd1}\, h^{a1b}\, h^{b1c}\, n_{a1}\, n_{b1}$$

$$n^{c1}\, n^d\, n_z\, \partial^{d1} b_{c1b} + \tfrac{1}{2}\, \pi_{\mathcal{A} id}^{\quad e}\ b^{\ a}_j\, \hat{\gamma}_{ae}\, \hat{\gamma}_{cd1}$$

$$h^{a1b}\, h^{b1c}\, n_{a1}\, n_{b1}\, n^{c1}\, n^d\, n_z\, \partial^{d1} b_{c1b} -$$

$$\tfrac{1}{2}\, \pi_{\mathcal{A} b1d}^{\quad e}\ b^{\ a}_j\, \hat{\gamma}_{ae}\, \hat{\gamma}_{bd1}\, h^{a1b}\, h^{b1c}\, n_{a1}\, n^{c1}$$

$$n^d\, n_i\, n_z\, \partial^{d1} b_{c1c} + \tfrac{1}{2}\, \pi_{\mathcal{A} b1d}^{\quad e}\ b^{\ a}_i\, \hat{\gamma}_{ae}\, \hat{\gamma}_{bd1}$$

$$h^{a1b}\, h^{b1c}\, n_{a1}\, n^{c1}\, n^d\, n_j\, n_z\, \partial^{d1} b_{c1c},\ D\mathcal{J}_i \Big\}$$