$$S = \frac{1}{(2\pi)^{4k+1}} \int \left(\frac{1}{2} dP \wedge \star_{\eta} dP - 2Q \wedge dP + (Q+J) \wedge \widetilde{\mathcal{M}}(Q+J) + 2Q \wedge J - \frac{1}{2} J \wedge \star_{\eta} J \right) ;$$