Eq 57 Matthew v1

Setting $A = \Omega^2$, equation (57) takes the form

$$\begin{aligned}\delta W_{\mu\nu} = {} & 12A^{-6}K_{\mu\nu}\tilde{\nabla}_\alpha A\tilde{\nabla}^\alpha A\tilde{\nabla}_\gamma A\tilde{\nabla}^\gamma A + A^{-5}(-12K_{\mu\nu}\tilde{\nabla}_\alpha A\tilde{\nabla}_\beta A\tilde{\nabla}^\beta\tilde{\nabla}^\alpha A \\ & - 12\tilde{\nabla}_\alpha A\tilde{\nabla}^\alpha A\tilde{\nabla}_\gamma A\tilde{\nabla}^\gamma K_{\mu\nu} - 6K_{\mu\nu}\tilde{\nabla}_\alpha A\tilde{\nabla}^\alpha A\tilde{\nabla}_\zeta\tilde{\nabla}^\zeta A) + A^{-4}(4\tilde{\nabla}_\alpha A\tilde{\nabla}_\beta A\tilde{\nabla}^\beta\tilde{\nabla}^\alpha K_{\mu\nu} \\ & + 8\tilde{\nabla}_\alpha A\tilde{\nabla}_\gamma\tilde{\nabla}^\alpha A\tilde{\nabla}^\gamma K_{\mu\nu} + 2K_{\mu\nu}\tilde{\nabla}_\gamma\tilde{\nabla}^\beta A\tilde{\nabla}^\gamma\tilde{\nabla}_\beta A + 4\tilde{\nabla}_\alpha A\tilde{\nabla}^\alpha K_{\mu\nu}\tilde{\nabla}_\zeta\tilde{\nabla}^\zeta A \\ & + K_{\mu\nu}\tilde{\nabla}_\beta\tilde{\nabla}^\beta A\tilde{\nabla}_\zeta\tilde{\nabla}^\zeta A + 2\tilde{\nabla}_\alpha A\tilde{\nabla}^\alpha A\tilde{\nabla}_\zeta\tilde{\nabla}^\zeta K_{\mu\nu} + 4K_{\mu\nu}\tilde{\nabla}_\alpha A\tilde{\nabla}_\zeta\tilde{\nabla}^\zeta\tilde{\nabla}^\alpha A) \\ & + A^{-3}(-2\tilde{\nabla}_\gamma\tilde{\nabla}^\beta A\tilde{\nabla}^\gamma\tilde{\nabla}_\beta K_{\mu\nu} - \tilde{\nabla}_\beta\tilde{\nabla}^\beta A\tilde{\nabla}_\zeta\tilde{\nabla}^\zeta K_{\mu\nu} - 2\tilde{\nabla}_\alpha K_{\mu\nu}\tilde{\nabla}_\zeta\tilde{\nabla}^\zeta\tilde{\nabla}^\alpha A \\ & - 2\tilde{\nabla}_\alpha A\tilde{\nabla}_\zeta\tilde{\nabla}^\zeta\tilde{\nabla}^\alpha K_{\mu\nu} - \tfrac{1}{2}K_{\mu\nu}\tilde{\nabla}_\zeta\tilde{\nabla}^\zeta\tilde{\nabla}_\beta\tilde{\nabla}^\beta A) + \tfrac{1}{2}A^{-2}\tilde{\nabla}_\zeta\tilde{\nabla}^\zeta\tilde{\nabla}_\beta\tilde{\nabla}^\beta K_{\mu\nu}. \end{aligned} \tag{1}$$