$$\begin{array}{c|cccc} & \phi^{\#1}_{0^+} & \mathcal{A}^{\#1}_{0^+} & \mathcal{B}^{\#1}_{0^+} & \mathcal{C}^{\#1}_{0^+} \\ \hline \phi^{\#1}_{0^+}\dagger & \zeta+k^2\,\delta & \frac{i\,k\,\epsilon}{2} & 0 & 0 \\ \mathcal{A}^{\#1}_{0^+}\dagger & -\frac{1}{2}\,i\,k\,\epsilon & k^2\,\alpha & 0 & 0 \\ \mathcal{B}^{\#1}_{0^+}\dagger & 0 & 0 & 0 & 0 \\ \mathcal{C}^{\#1}_{0^+}\dagger & 0 & 0 & 0 & 0 \end{array}$$

$$\begin{array}{c|ccc} & \mathcal{A}^{\#1}_{1^-}{}_{\alpha} & \mathcal{B}^{\#1}_{1^-}{}_{\alpha} & \mathcal{C}^{\#1}_{1^-}{}_{\alpha} \\ \hline \mathcal{A}^{\#1}_{1^-}\dagger^{\alpha} & 0 & 0 & 0 \\ \mathcal{B}^{\#1}_{1^-}\dagger^{\alpha} & 0 & k^2\,\beta & \frac{k^2\,\gamma}{2} \\ \mathcal{C}^{\#1}_{1^-}\dagger^{\alpha} & 0 & \frac{k^2\,\gamma}{2} & k^2\,\delta \end{array}$$

$$\begin{array}{c|cccc} & \rho^{\#1}_{0^+} & \mathcal{J}^{\#1}_{0^+} & \mathcal{K}^{\#1}_{0^+} & \mathcal{L}^{\#1}_{0^+} \\ \hline \rho^{\#1}_{0^+}\dagger & \frac{k^2\,\alpha}{\mathrm{Det}\,(0^+)} & -\frac{i\,k\,\epsilon}{2\,\mathrm{Det}\,(0^+)} & 0 & 0 \\ \mathcal{J}^{\#1}_{0^+}\dagger & \frac{i\,k\,\epsilon}{2\,\mathrm{Det}\,(0^+)} & \frac{\zeta+k^2\,\delta}{\mathrm{Det}\,(0^+)} & 0 & 0 \\ \mathcal{K}^{\#1}_{0^+}\dagger & 0 & 0 & 0 & 0 \\ \mathcal{L}^{\#1}_{0^+}\dagger & 0 & 0 & 0 & 0 \end{array}$$

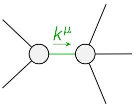
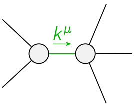
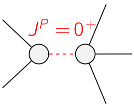
$$\begin{array}{c|ccc} & \mathcal{J}^{\#1}_{1^-}{}_{\alpha} & \mathcal{K}^{\#1}_{1^-}{}_{\alpha} & \mathcal{L}^{\#1}_{1^-}{}_{\alpha} \\ \hline \mathcal{J}^{\#1}_{1^-}\dagger^{\alpha} & 0 & 0 & 0 \\ \mathcal{K}^{\#1}_{1^-}\dagger^{\alpha} & 0 & \frac{k^2\,\delta}{\mathrm{Det}\,(1^-)} & -\frac{k^2\,\gamma}{2\,\mathrm{Det}\,(1^-)} \\ \mathcal{L}^{\#1}_{1^-}\dagger^{\alpha} & 0 & -\frac{k^2\,\gamma}{2\,\mathrm{Det}\,(1^-)} & \frac{k^2\,\beta}{\mathrm{Det}\,(1^-)} \end{array}$$

Abbreviations used in matrices
$\mathrm{Det}\,(0^+) == \frac{1}{4}\,k^2\,(-\epsilon^2+4\,\alpha\,(\zeta+k^2\,\delta))$ && $\mathrm{Det}\,(1^-) == \frac{1}{4}\,k^4\,(4\,\delta\,\beta-\gamma^2)$

Lagrangian
$\zeta\,\phi^2+\epsilon\,\phi\,\partial_\alpha\mathcal{A}^\alpha+\delta\,\partial_\alpha\phi\,\partial^\alpha\phi+\beta\,\partial_\alpha\mathcal{B}_\beta\,\partial^\alpha\mathcal{B}^\beta+\gamma\,\partial_\alpha\mathcal{B}_\beta\,\partial^\alpha\mathcal{C}^\beta+$ $\delta\,\partial_\alpha\mathcal{C}_\beta\,\partial^\alpha\mathcal{C}^\beta+\alpha\,\partial_\alpha\mathcal{A}^\alpha\,\partial_\beta\mathcal{A}^\beta-\beta\,\partial_\alpha\mathcal{B}_\beta\,\partial^\beta\mathcal{B}^\alpha-\gamma\,\partial_\alpha\mathcal{B}_\beta\,\partial^\beta\mathcal{C}^\alpha-\delta\,\partial_\alpha\mathcal{C}_\beta\,\partial^\beta\mathcal{C}^\alpha$

Added source term(s):	$\phi\,\rho+\mathcal{A}^\alpha\,\mathcal{J}_\alpha+\mathcal{B}^\alpha\,\mathcal{K}_\alpha+\mathcal{C}^\alpha\,\mathcal{L}_\alpha$

Source constraint(s)	# constraint(s)	Covariant form
$\mathcal{L}^{\#1}_{0^+} == 0$	1	$\partial_\alpha\mathcal{L}^\alpha == 0$
$\mathcal{K}^{\#1}_{0^+} == 0$	1	$\partial_\alpha\mathcal{K}^\alpha == 0$
$\mathcal{J}^{\#1\,\alpha}_{1^-} == 0$	3	$\partial_\beta\partial^\alpha\mathcal{J}^\beta == \partial_\beta\partial^\beta\mathcal{J}^\alpha$
Total # constraint(s):	5	

Resolved pole(s)	# polarization(s)	Square mass	Residue
	2	0	$-\frac{\delta+\beta+\sqrt{\delta^2-2\,\delta\,\beta+\beta^2+\gamma^2}}{4\,\delta\,\beta-\gamma^2}$
	2	0	$-\frac{\delta+\beta-\sqrt{\delta^2-2\,\delta\,\beta+\beta^2+\gamma^2}}{4\,\delta\,\beta-\gamma^2}$
	1	$\frac{\epsilon^2-4\,\alpha\,\zeta}{4\,\alpha\,\delta}$	$\frac{\alpha\,\epsilon^2-4\,\alpha^2\,\zeta+\epsilon^2\,\delta}{\alpha\,\epsilon^2\,\delta-4\,\alpha^2\,\zeta\,\delta}$

Resolved unitarity condition(s):	(Demonstrably impossible)