$$\mathcal{L}_{\text{free}} + \mathcal{L}_{\text{int}} = \partial^\mu \phi^{*i} \partial_\mu \phi_i + i\psi^{\dagger i} \overline{\sigma}^\mu \partial_\mu \psi_i + \mathcal{F}^{*i} \mathcal{F}_i$$

$$+ \left(-\frac{1}{2} W^{ij} \psi_i \psi_j + W^i \mathcal{F}_i - \frac{1}{2} W^*_{ij} \psi^\dagger_i \psi^\dagger_j + W^*_i \mathcal{F}^{*i} \right)$$