

Exercise 3

1. Show that a triangle diagram gives the correct coefficient of $\text{Arg}(\det M) \tilde{F}_{\mu\nu}^a F^{a\mu\nu}$ for the low-energy effective Lagrangian in eqn (9.55).

2. Explicitly verify the anomaly matching for SUSY QCD with N colors and F flavors with its dual description for the following global anomalies: $SU(F)^3$, $U(1)SU(F)^2$, $U(1)_R SU(F)^2$, $U(1)^3$, $U(1)$, $U(1)U(1)_R^2$, $U(1)_R$, $U(1)_R^3$, and $U(1)^2U(1)_R$.