$$V \quad \supset \quad \frac{1}{2}\lambda_1(H_d^\dagger H_d)^2 + \frac{1}{2}\lambda_2(H_u^\dagger H_u)^2 + \lambda_3(H_u^\dagger H_u)(H_d^\dagger H_d) + \lambda_4(H_u H_d)(H_u^\dagger H_d^\dagger)$$

$$+ \left\{ \frac{1}{2}\lambda_5(H_u H_d)^2 + \left[\lambda_6(H_d^\dagger H_d) + \lambda_7(H_u^\dagger H_u) \right](H_u H_d) + \text{h.c.} \right\}$$