Mass dependent SNmass loss  $(\zeta_{eff}, q_{\text{crit},2}), \ \mathcal{R}_{0.2}$  $10^{2}$ Possible location rise in GW - data(Farah et al. 2021) (3.5, 3.03), 0.0(4.5, 3.55), 0.3(5.5, 4.06), 3.3 $10^{1}$ (6.0, 4.32), 6.5(6.5, 4.58), 13.0  $\frac{d\mathcal{R}}{dM_{\text{chirp}}} [\text{Gpc}^{-3}\text{yr}^{-1}]$  $10^{0}$ 2.5 7.5 12.5 15.0 5.0 10.0 Chirp Mass,  $M_{\rm chirp}$  [M $_{\odot}$ ]