Bound (Log Scale) comparison across different methods and widths (w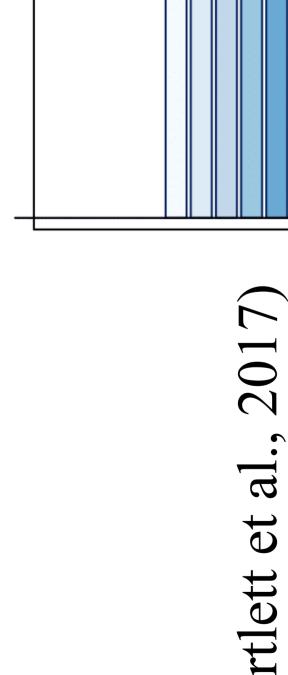): (Bartlett et al., 2017) Eq. C2.(32); (Golowich et al., 2018) Eq. C2.(27); (Golowich et al., 2018) Eq. C2.(28); (Golowich et al., 2018) Eq. C2.(29); (Neyshabur et al., 2018) Eq. C2.(32); (Long & Sedghi, 2020) Eq. C4.(36); (Graf et al., 2022) Eq. C4.(37); (Pinto et al., 2024) Eq. C2.(29) - $C_1 = C_2 = 1$; (Pinto et al., 2024) Eq. C2.(29) - $C_1 = C_2 = 2$; (Pinto et al., 2024) Eq. C2.(30) - $C_1 = 1$; (Pinto et al., 2024) Eq. C2.(30) - $C_1 = 2$; Ours Eq. Main Paper.(16). Width (w): 200, 400, 600, 800, 1000.