Figure 1: a) CO TPD on a Co and Ni doped Gr/Ni(111) monolayer, and identification of the adsorption sites; b) Energetic landscape of CO adsorption on single metal atoms embedded in Gr di-vacancies (M@2V, M=Ni, Co), after CVD growth on Ni(111). For Co, $E_a = 174$ meV, while, for Ni, $E_a \sim 100$ meV; c) Kinetic model representing CO adsorption on Ni@3V, mediated by the presence of a precursor state.