



**S4 Fig.** UV-Visible signatures for the interaction in McIlvaine buffer between DNA and 5.0 $\mu$ M of (A) DXH (B) Epi-DXH (C) DNR and (D) AA.  $\{C_{DNA}=0, 2\mu$ M, 2.5 $\mu$ M, 3 $\mu$ M, 3.5 $\mu$ M, 4.0 $\mu$ M, 4.5  $\mu$ M; 5.0  $\mu$ M. Arrow direction indicated the increasing concentrations of DNA, pH =4.7, T=309.5K}.