

Supplementary Information

EPR studies of intermolecular interactions and competitive binding of drugs in a drug-BSA binding model

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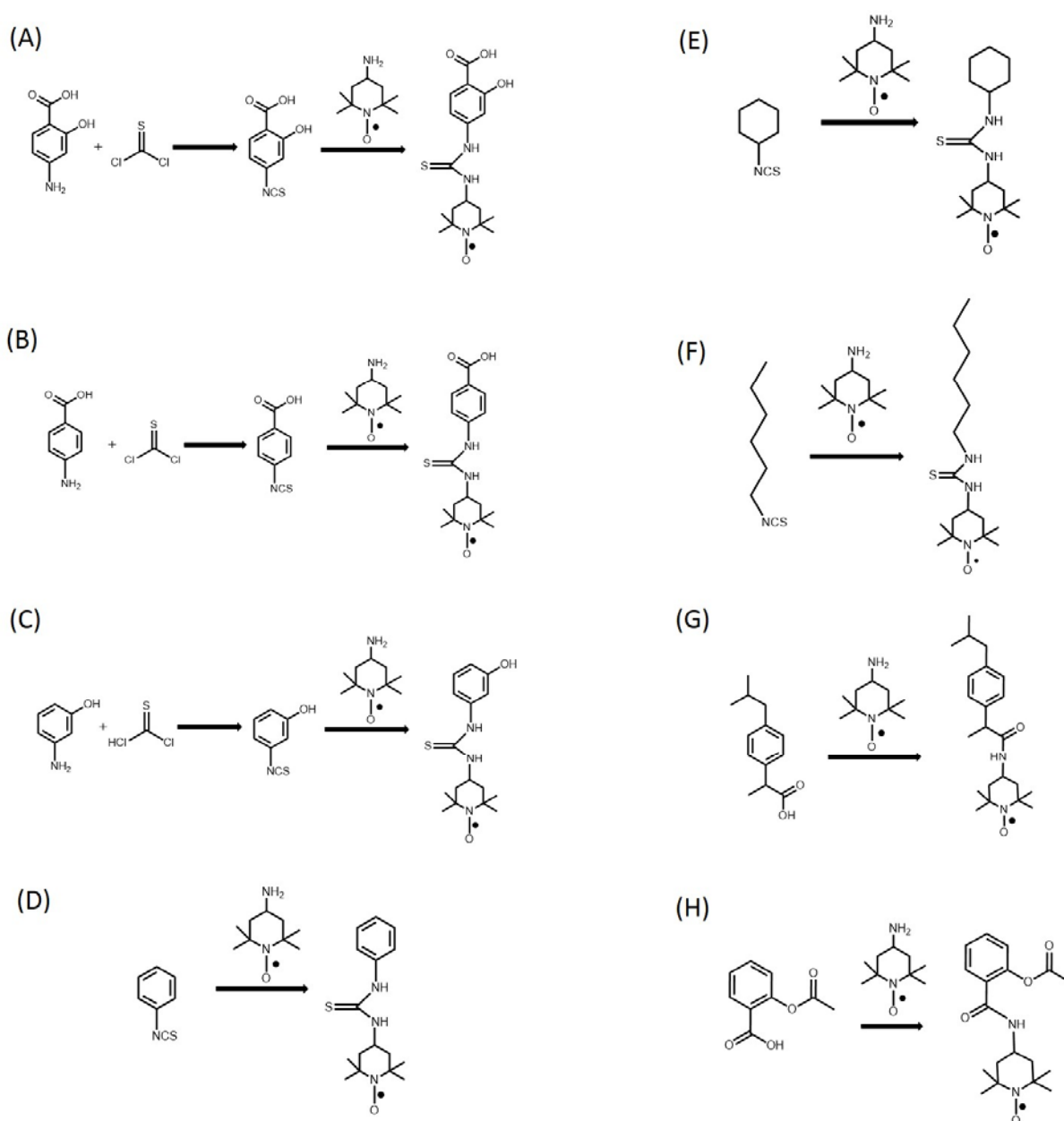


Fig. S1 Synthetic route to spin labeled molecules of (A) SL-salicylic acid (B) SL-benzoic acid, (C) SL-phenol, (D) SL-benzene, (E) SL-cyclohexane, (F) SL-hexane, (G) SL-ibuprofen and (H) SL-aspirin.

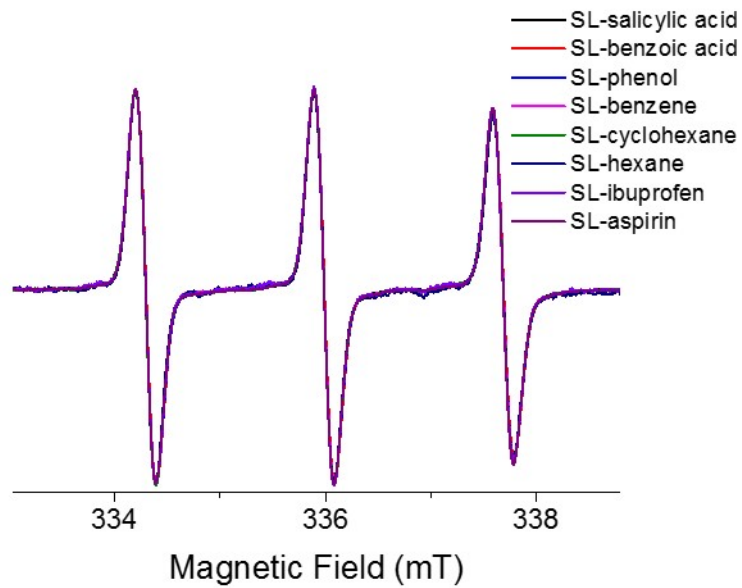


Fig. S2 EPR spectra of 0.5 mM SL-molecules in 0.1 M phosphate buffer solutions containing 1% (v/v) DMSO.

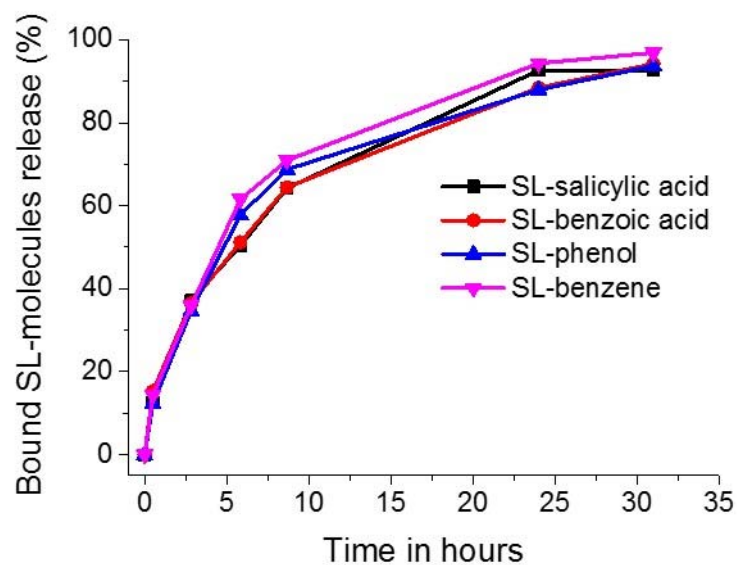


Fig. S3 The bound SL-salicylic acid, SL-benzoic acid, SL-phenol and SL-benzene release profiles from BSA with time at 37 °C.

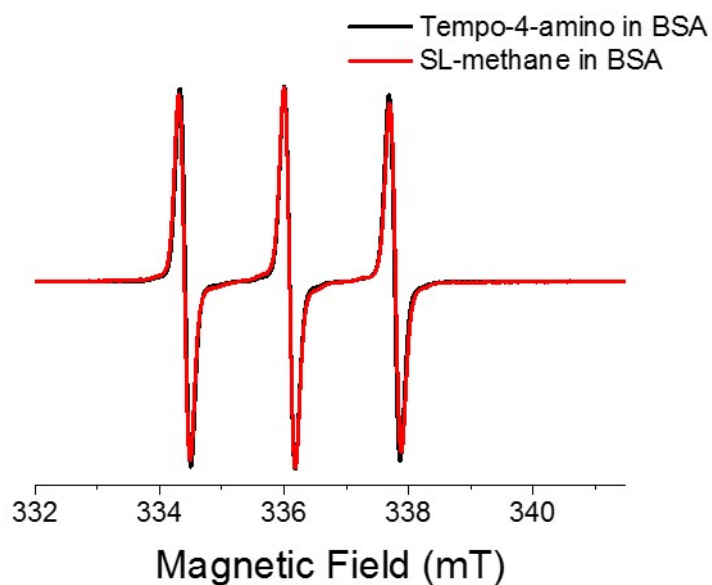


Fig. S4 EPR spectra of 0.5 mM SL-methane and Tempo-4-amino in 0.5 mM BSA in 0.1 M phosphate buffer solutions.

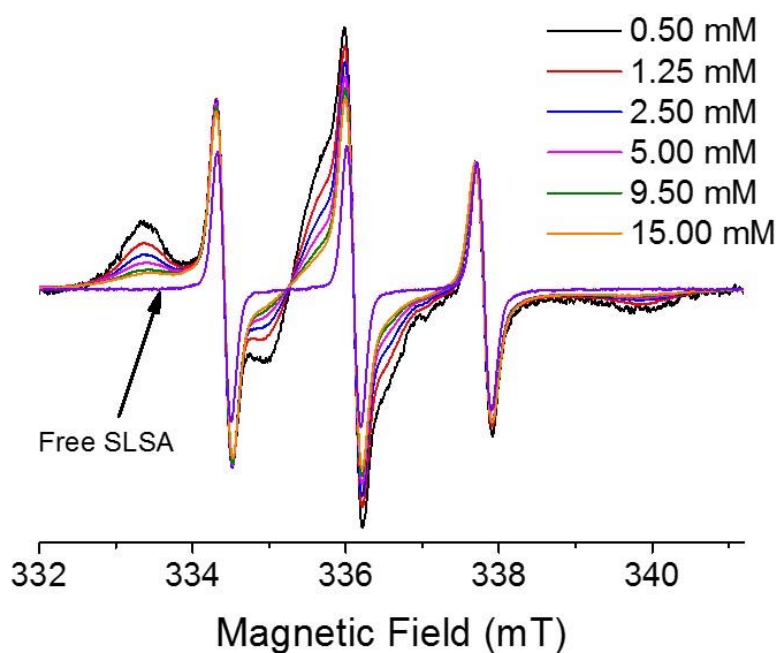


Fig. S5 CW EPR spectra of SL-salicylic acid in a constant 0.5 mM cBSA solution at different SL-salicylic acid/BSA ratios. The concentrations of SL-salicylic acids are 0.5, 1.25, 2.5, 5.0, 9.5 and 15 mM (from top to bottom). 0.5 mM free SL-salicylic acid in buffer solution is shown. The EPR spectra are normalized to the intensity of the high field line of the unbound SLSA.

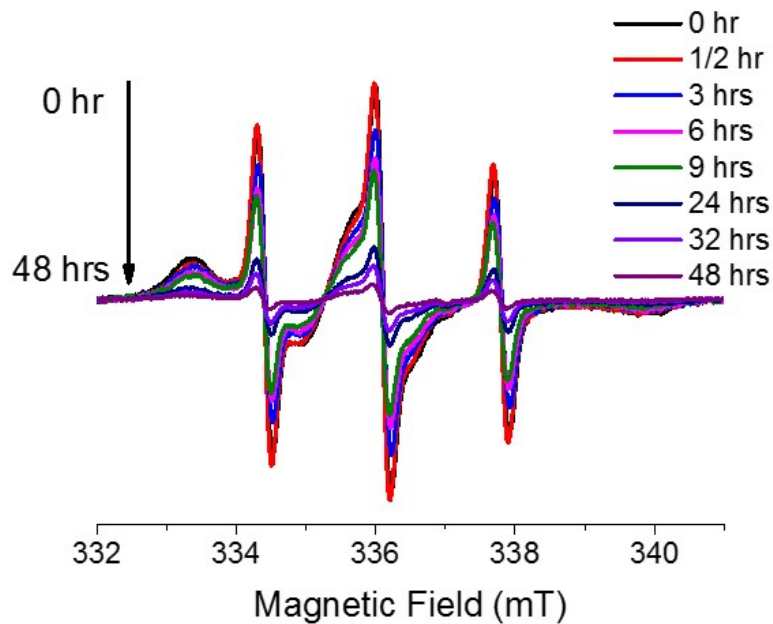


Fig. S6 Cw EPR spectra of 0.5 mM SLSA/cBSA (1:1) solution in a dialyzer tube as a function of time

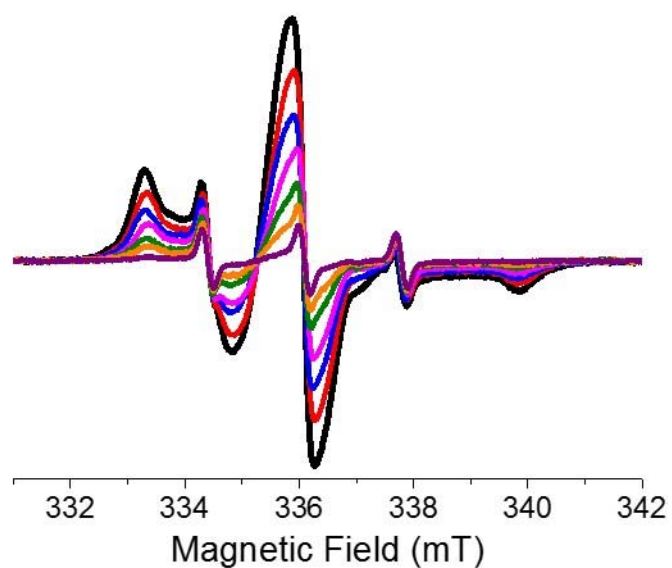


Fig. S7 Cw EPR spectrum of SL-ibuprofen in BSA solution at a SL-ibuprofen/BSA ratio of 1. The concentrations of SL-ibuprofen and BSA from top to bottom are 3.0, 2.5, 2.0, 1.5, 1.0, 0.5 and 0.25 mM. The EPR spectra are normalized to the intensity of the high field line of the unbound SL-ibuprofen.