

ELECTRONIC SUPPLEMENTARY INFORMATION

***N*-Amidothiourea Based PET Chemosensors for Anions**

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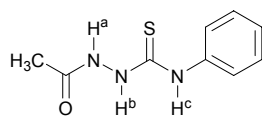
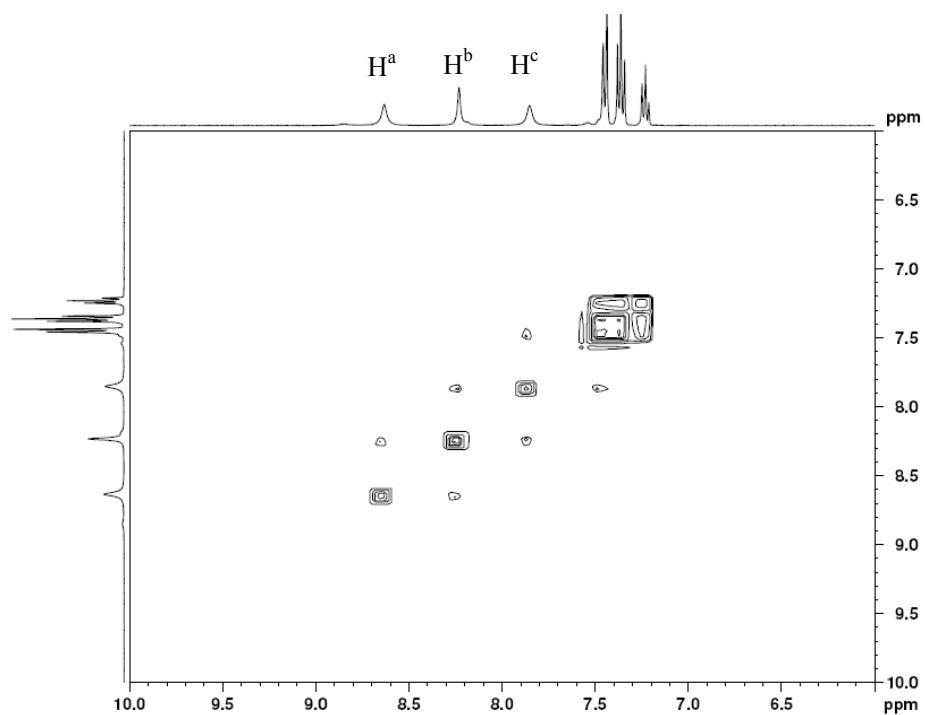


Figure S1. Portion of 2D COSY spectrum of *N*-acetamidothiourea and summary of COSY observed in CD₃CN. This spectrum was taken as a reference for assigning -NH NMR signals of 1-3.

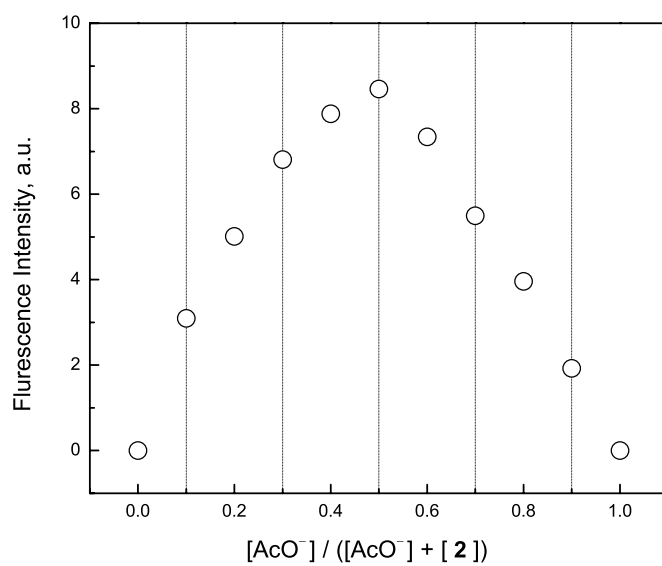


Figure S2. Job plot for binding of **2** with AcO^- in MeCN. The fluorescence intensity is the difference of fluorescence intensity of $\text{AcO}^-/2$ mixture and that of **2**. Total concentration of AcO^- and **2** is $8.55 \times 10^{-6} \text{ mol L}^{-1}$.

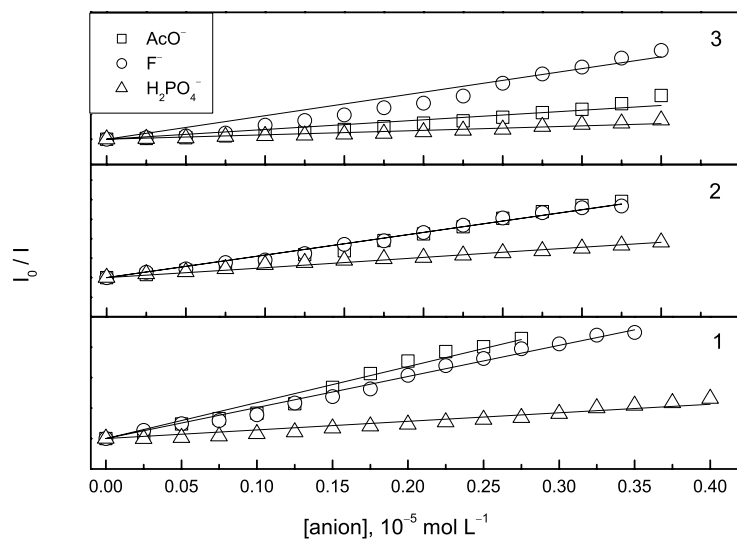
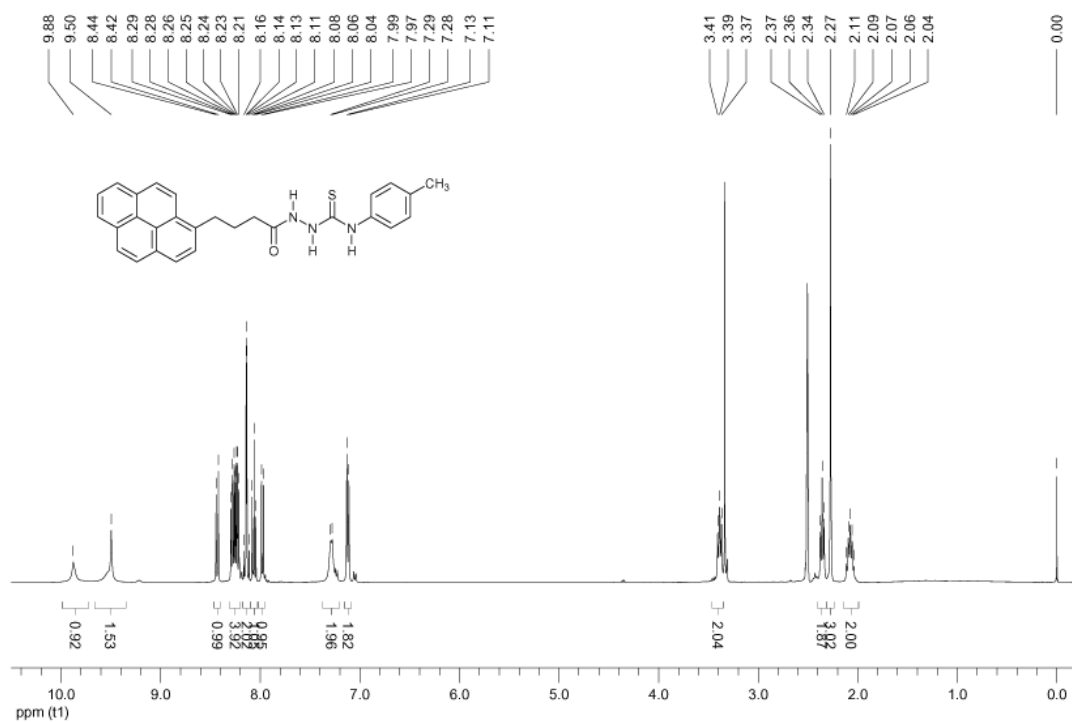
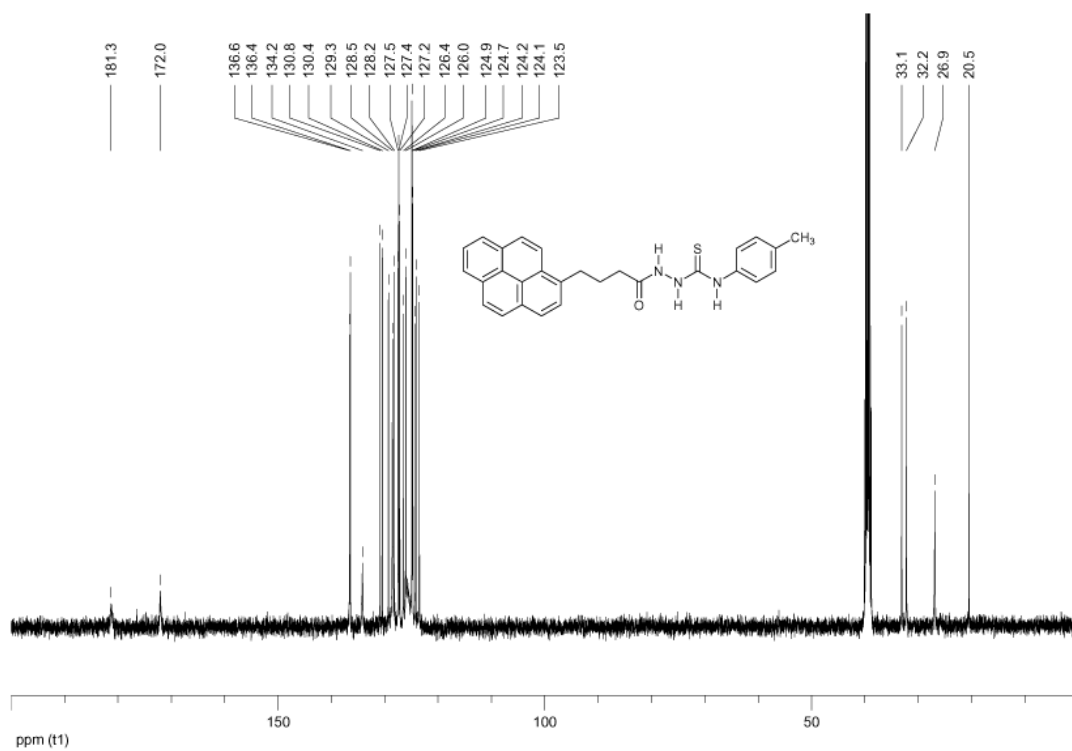


Figure S3. Stern-Volmer plots for quenching of sensors **1-3** fluorescence by AcO^- , F^- and H_2PO_4^- , respectively, in MeCN

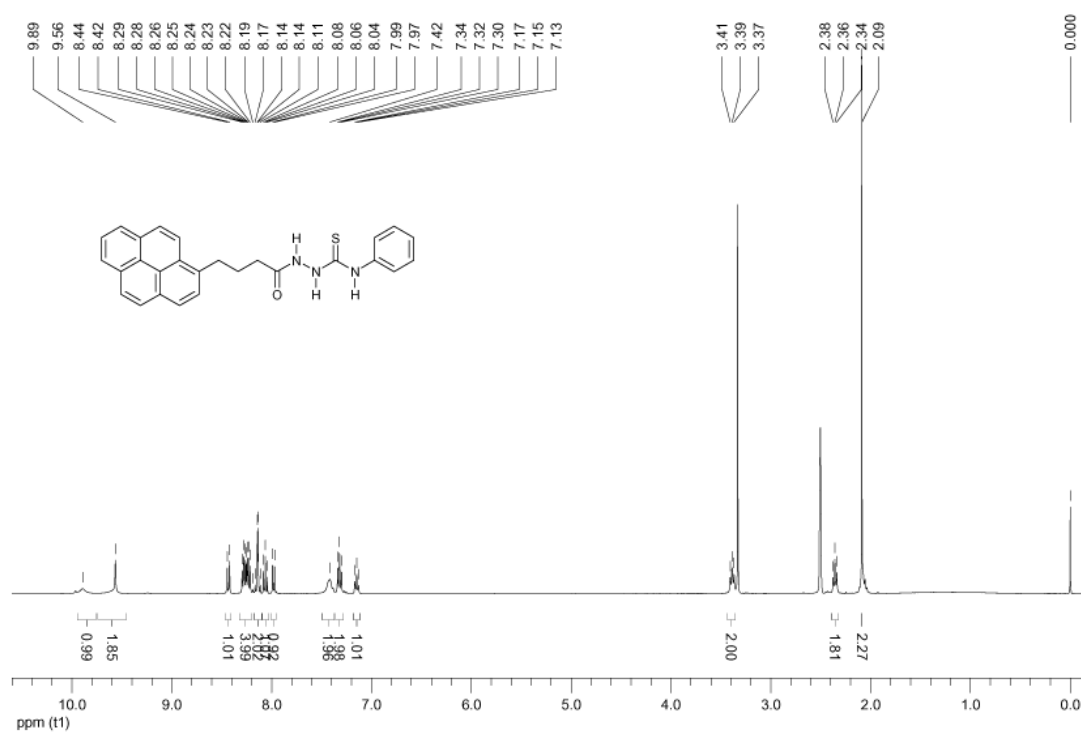
***N*-(1-Pyrenebutanamide)-*N'*-(*p*-tolyl)thiourea (1):** ^1H NMR (400 MHz, $\text{DMSO-}d_6$).



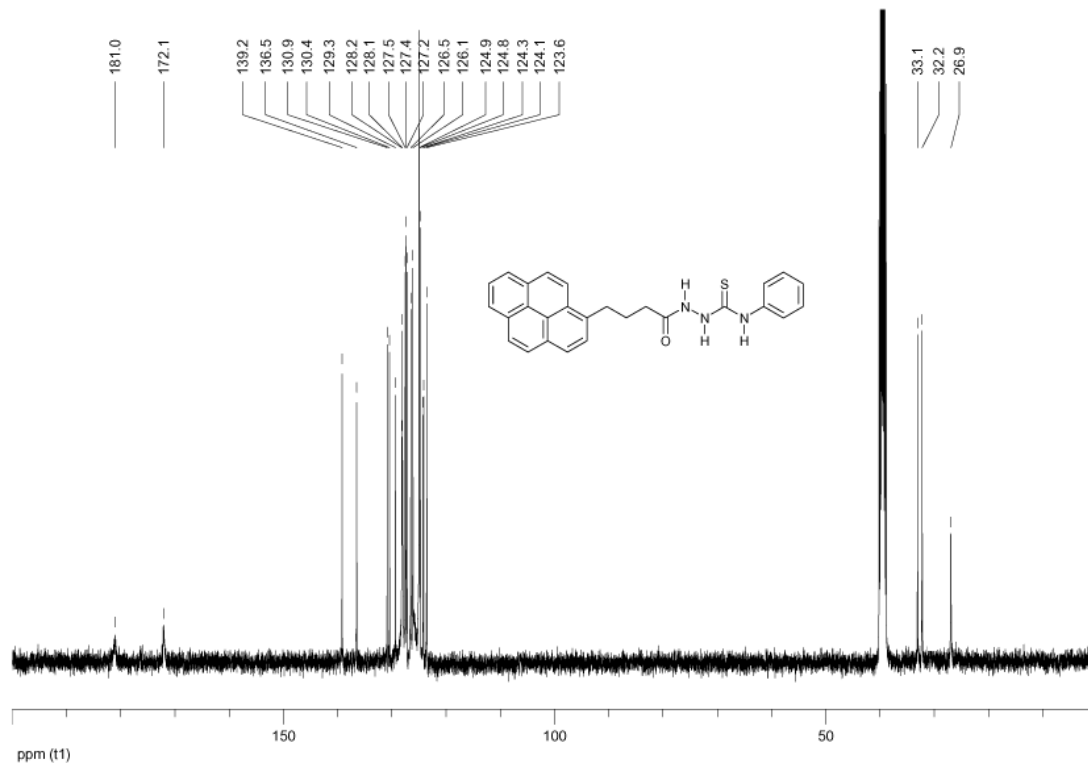
***N*-(1-Pyrenebutanamide)-*N'*-(*p*-tolyl)thiourea (1):** ^{13}C NMR (100 MHz, $\text{DMSO-}d_6$).



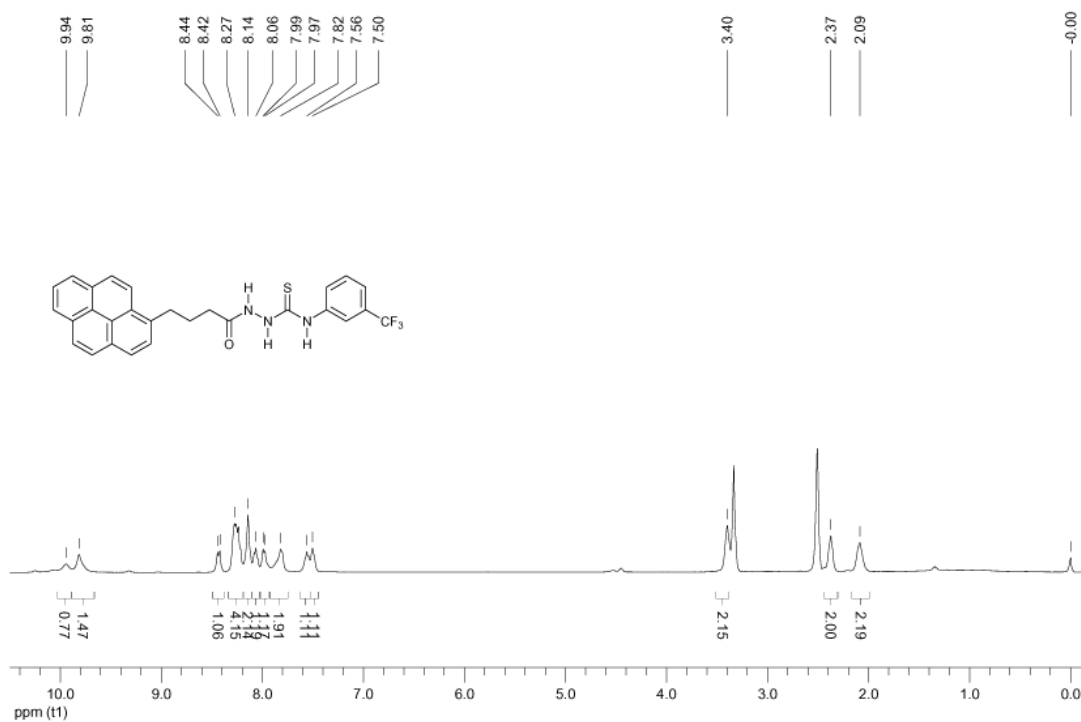
***N*-(1-Pyrenebutanamide)-*N'*-phenylthiourea (2): ^1H NMR (400 MHz, $\text{DMSO-}d_6$).**



***N*-(1-Pyrenebutanamide)-*N'*-phenylthiourea (2): ^{13}C NMR (100 MHz, $\text{DMSO-}d_6$).**



N-(1-Pyrenebutanamide)-*N'*-(*m*-trifluoromethylphenyl)thiourea (3): ^1H NMR (400 MHz, $\text{DMSO-}d_6$).



N-(1-Pyrenebutanamide)-*N'*-(*m*-trifluoromethylphenyl)thiourea (3): ^{13}C NMR (100 MHz, $\text{DMSO-}d_6$).

