

Article

Sensing Techniques for Organochlorides through Intermolecular Interaction with Bicyclic Amidines

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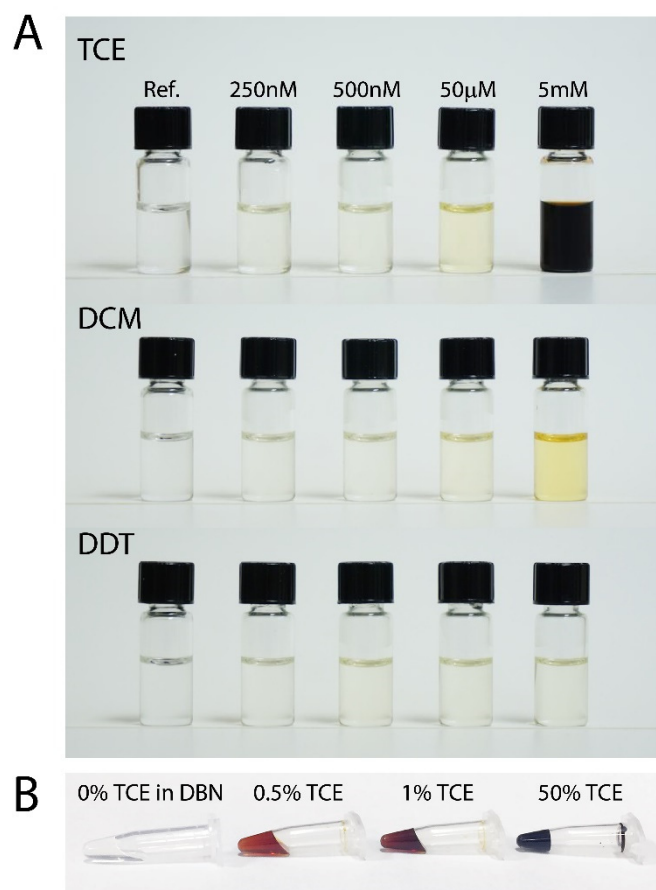


Figure S1. (A) Photograph of the mixtures of organochloride (TCE, DCM, and DDT) and DBN taken after 240 hours upon mixing. DBN concentration is 16.5 mM. (B) Photograph of TCE-DBN mixtures demonstrating a change of viscosity. The concentration of TCE at the 50% TCE sample is 90 mM in DMSO/H₂O (4/1). Note that viscosity increases as TCE concentration increases.

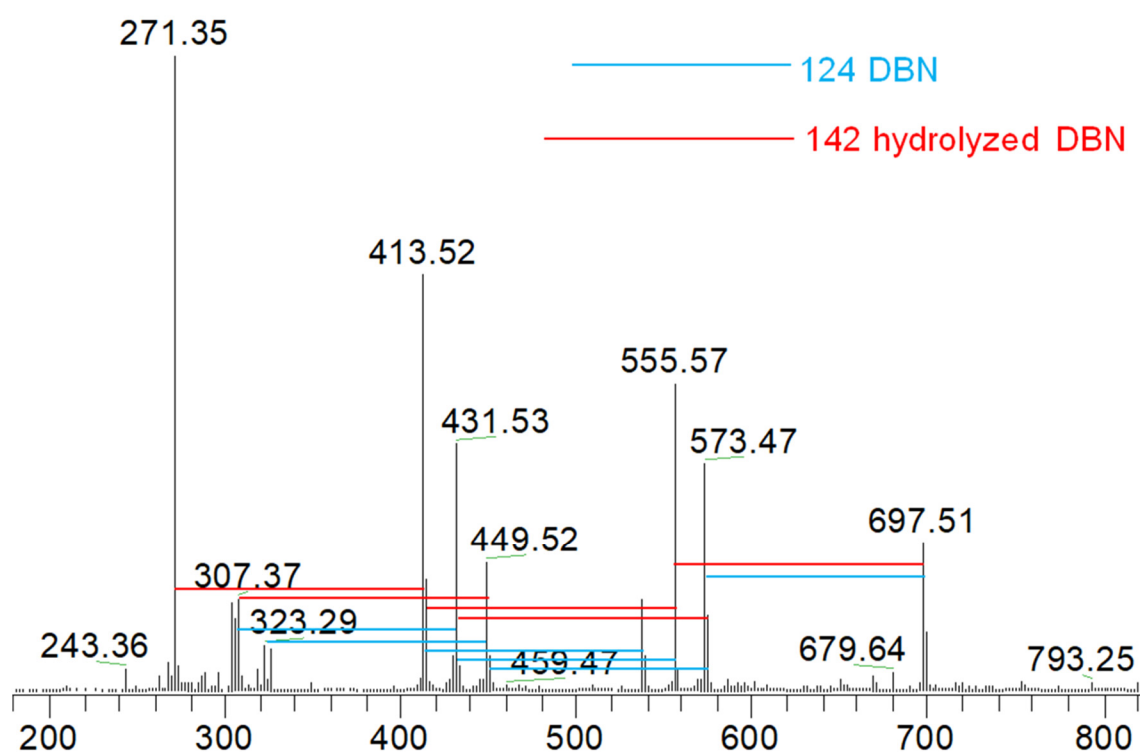


Figure S2. Mass spectrum of the mixture of TCE and DBN. Three consecutive intervals of m/z 124 (mass of DBN) and m/z 142 (mass of hydrolyzed DBN) are indicated.

The typical standard deviation (s) of the MEKC system (Figure S3 in Jang, L.-W., et al. *Lab Chip* **2016**, *16*, 3558) is 0.00022 at the blank (Ref) and 10 nM.

$$\text{LOD}^{1,2} = 3.3s/\text{sensitivity} = 3.3s/\text{slope}$$

$$\text{LOD (TCE)} = 3.3 \times (0.00022) / (0.01055/2.5 \text{ nM})$$

$$= 0.172 \text{ nM}$$

$$\text{LOD (DCM)} = 3.3 \times (0.00022) / (0.01706/2.5 \text{ nM})$$

$$= 0.106 \text{ nM}$$

$$\text{LOD (DDT)} = 3.3 \times (0.00022) / (0.02500/2.5 \text{ nM})$$

$$= 0.072 \text{ nM}$$

Reference

1. Kim, S.K.; Chang, H.; Zellers, E.T. Microfabricated Gas Chromatograph for the Selective Determination of Trichloroethylene Vapor at Sub-Parts-Per-Billion Concentrations in Complex Mixtures. *Anal. Chem.* **2011**, *83*, 7198–7206.
2. Belter, M.; Sajnóg, A.; Barańkiewicz, D. Over a century of detection and quantification capabilities in analytical chemistry—Historical overview and trends. *Talanta* **2014**, *129*, 606–616.