Supporting Information for

An Efficient ESIPT-Based Ratio/Fluorimetric Probe for Rapid and Sensitive Detection of Sarin Surrogate, Diethylchlorophosphate in Solution and Vapor Phase

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[‖]Equally contributed to this work

Table of Contents

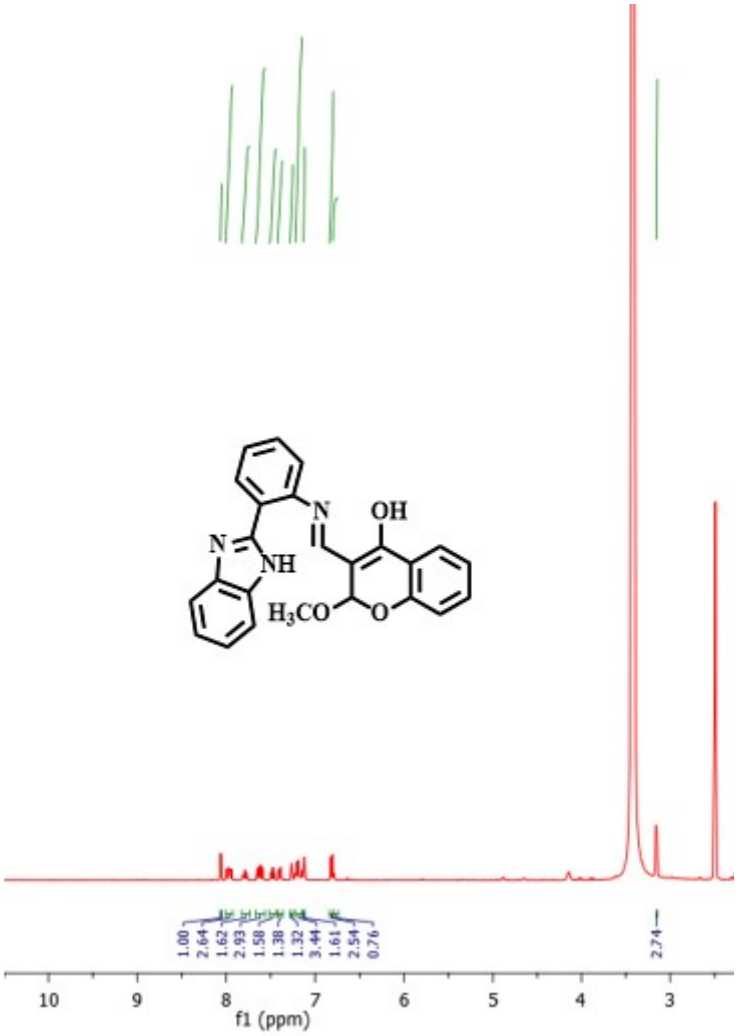

Fig. S1: ^{1}H NMR spectrum of prepared probe **BPMC** in DMSO-d_6.

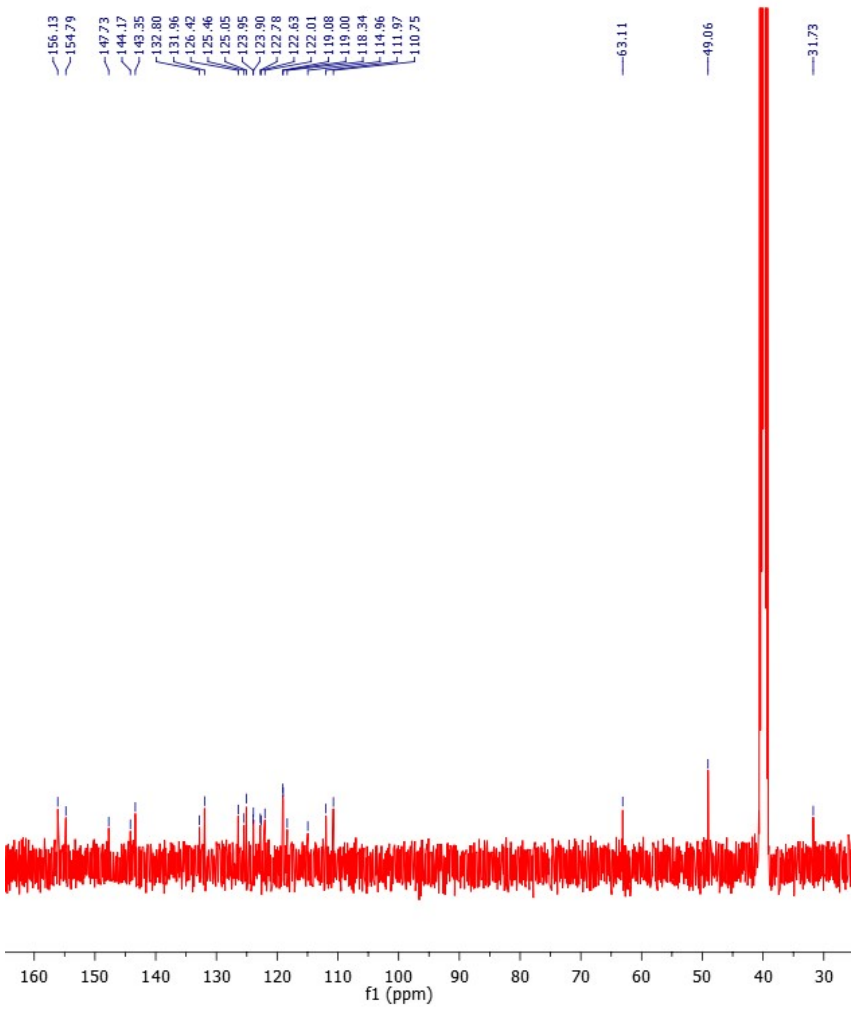

Fig. S2: ^{13}C NMR spectrum of prepared probe **BPMC** in DMSO-d_6.

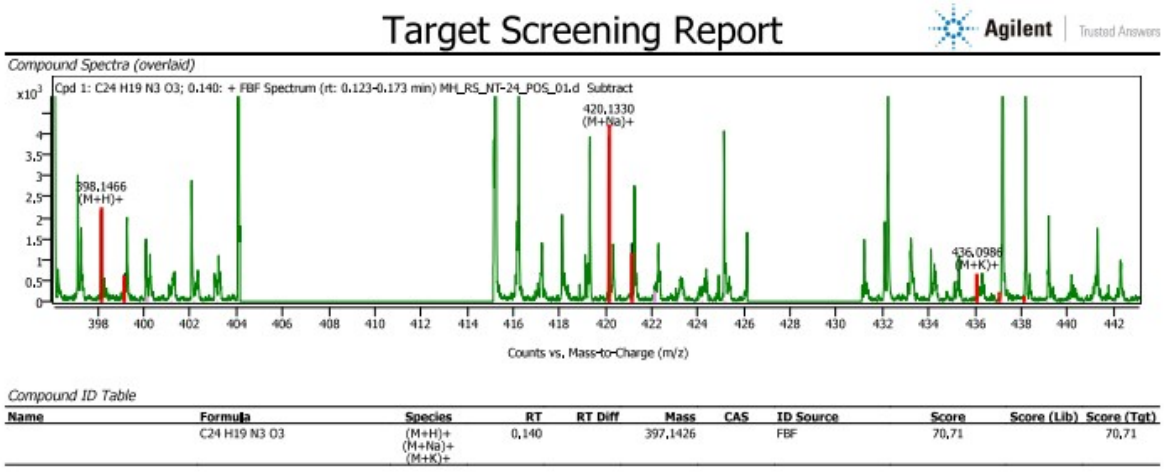

Fig. S3: High-resolution mass spectra of synthesized **BPMC**.

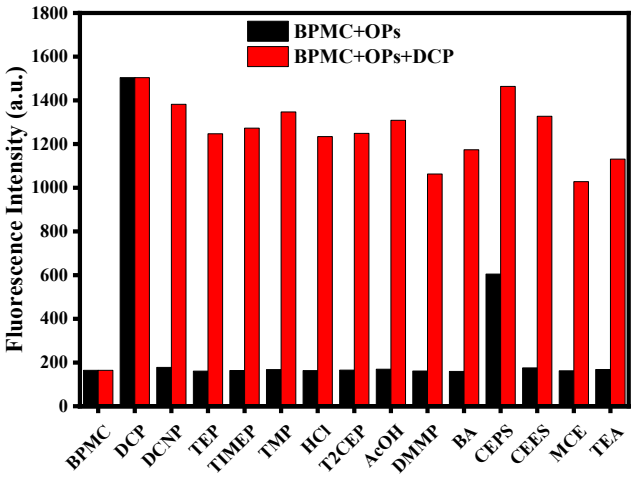

Fig. S4: Change in fluorescence intensity of the probe in the presence of 2.78 mM of DCP upon addition of 2.78 mM of other toxic analytes in DMSO.

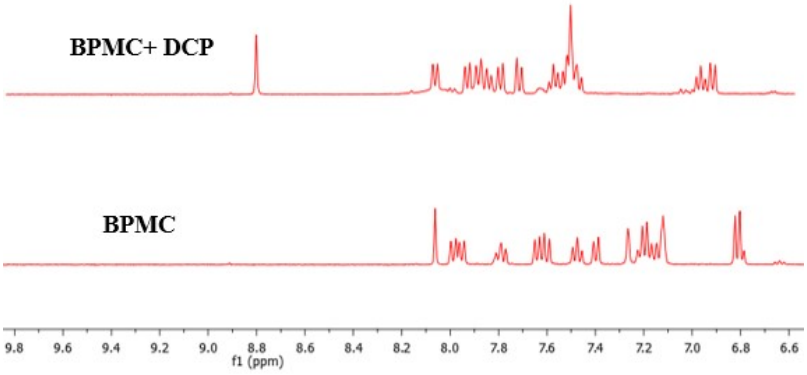

Fig. S5: ^{1}H NMR titration spectra of **BPMC** due to the inclusion of DCP.

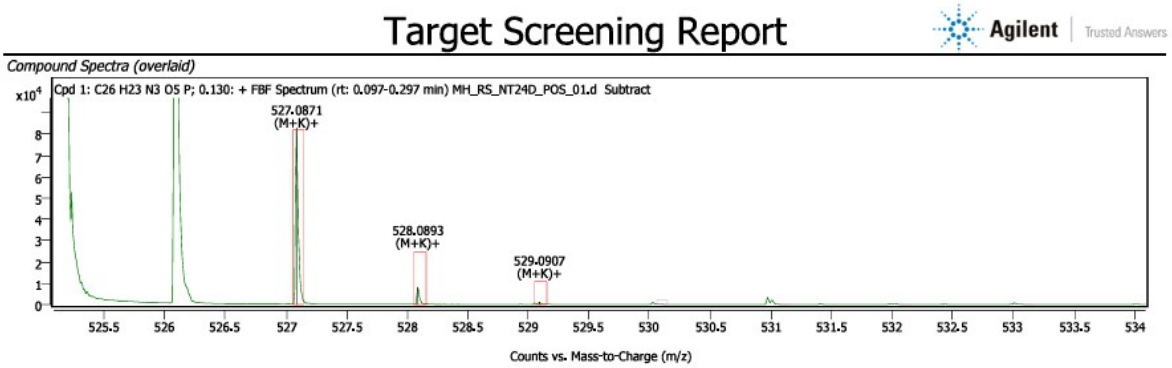

Fig. S6: High-resolution mass spectra of **BPMC**-DCP adduct.

Table S1: Comparison table of chemosensors introduced for the detection of nerve agent stimulants in the last few decades with probe **BPMC**.

Probes	Type of response	Detection Limit	Selectivity	Response Time	Application	Ref. No.
carbazole-based nanofibers	Fluorescence (ratiometric)	69.4 μM	DCP	3s	-	[1]
Pyridine based	Chromogenic	19 mM	Multi-sensing	-	Polyurethane film vapor test	[2]
fluorescein-hydroxamate aldehyde	Colorimetric	0.15 mM	Multi-sensing	instant	-	[3]
BODIPY–salicylaldehyde oxime based	fluorometric	92.2 μM	Multi-sensing	-	Logic gate construction	[4]
bifunctional azoaniline-based	Colorimetric, fluorometric	0.2 mM	Multi-sensing	within 1 min	-	[5]
Xanthene	Colorimetric, fluorometric	26 μM	DCP	faster	-	[6]
Polymer (BPAm-co-DMA-co-MPDEA)	Colorimetric	18.4 μM	DCP & NH_3	within few min	polymeric film vapor test	[7]
di-methylation derivatives	fluorometric	0.023 mM	DCP	Almost 2 minutes	TLC aluminum strips test	[8]
Pyrene derivative	fluorometric	7.32 μM	DCP	within a fraction of a second	Test kit & vapor test	[9]
Methyl orange derivative	colorimetric	3.8 μM	DCP	within a fraction of a second	Test kit & vapor test	[10]
chromone-benzimidazole coupled fluorogenic dyad (BPMC)	**fluorometric**	**6.6 μM**	**DCP**	**4-5 minutes**	**Test kit & vapor test**	**Our work.**

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