

Supporting Information for:

Studies on coordination and fluorescence behaviors of a novel uranyl ion-selective chemosensor bearing diaza 18-Crown-6 Ether and naphthalimide moieties

Min Seok Kim, Takehiko Tsukahara

Laboratory for Advanced Nuclear Energy, Institute of Innovative Research, Tokyo

Institute of Technology, 2-12-1-N1-6, Ookayama, Meguro, Tokyo 152-8550, Japan

† To whom correspondence should be addressed:

Takehiko Tsukahara: ptsuka@lane.iir.titech.ac.jp

Table S2-S1 Elemental analysis result of PN-DCE

	Calculated	Measured	Difference
C	71.64 %	71.47 %	0.17 %
H	5.47 %	5.37 %	0.10 %
O	15.92 %	16.18 %	0.26 %
N	6.97 %	6.88 %	0.09 %

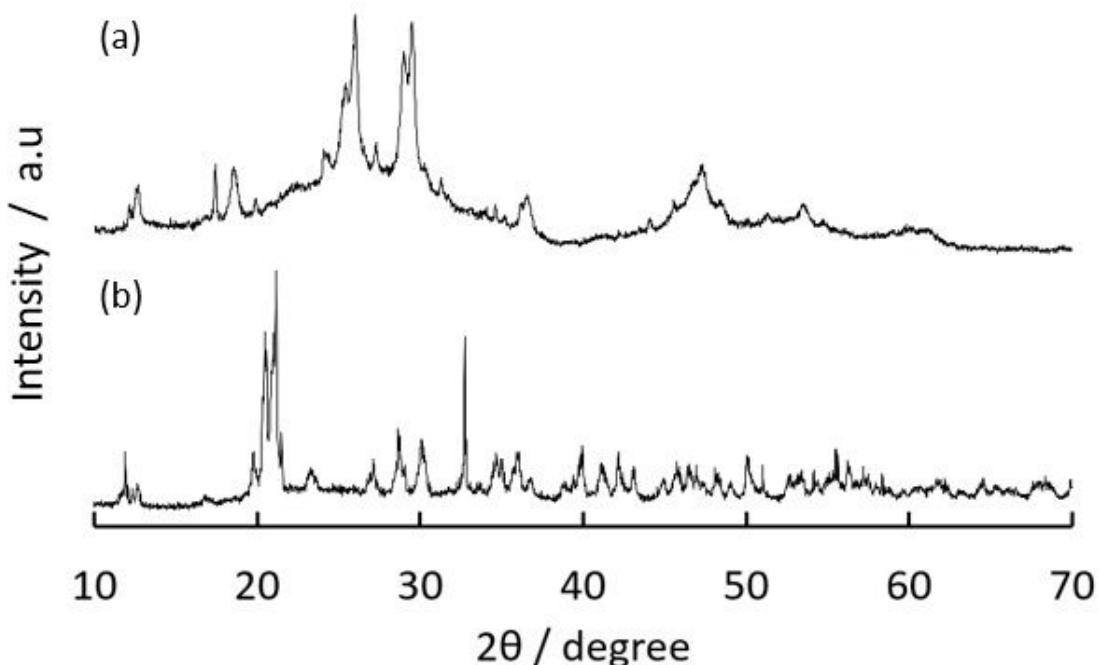


Figure S3-S1. XRD spectra of (a) UO_3 and (b) $\text{UO}_2(\text{ClO}_4)_2$. Both spectra were

well-matched with previous XRD data [S1,S2].

[S1] Hwang, D., Tsukahara, T., Tanaka, K., Osaka, M., & Ikeda, Y. (2015). Studies on supercritical hydrothermal syntheses of uranium and lanthanide oxide particles and their reaction mechanisms. *Journal of Nuclear Materials*, 466, 134–141.

<https://doi.org/10.1016/j.jnucmat.2015.06.020>

[S2] Schöne, S., Radoske, T., März, J., Stumpf, T., Patzschke, M., & Ikeda-Ohno, A. (2017). $[\text{UO}_2\text{Cl}_2(\text{phen})_2]$, a Simple Uranium(VI) Compound with a Significantly Bent Uranyl Unit (phen=1,10-phenanthroline). *Chem. Eur. J.*, 23(55), 13574–13578.

<https://doi.org/10.1002/chem.201703009>

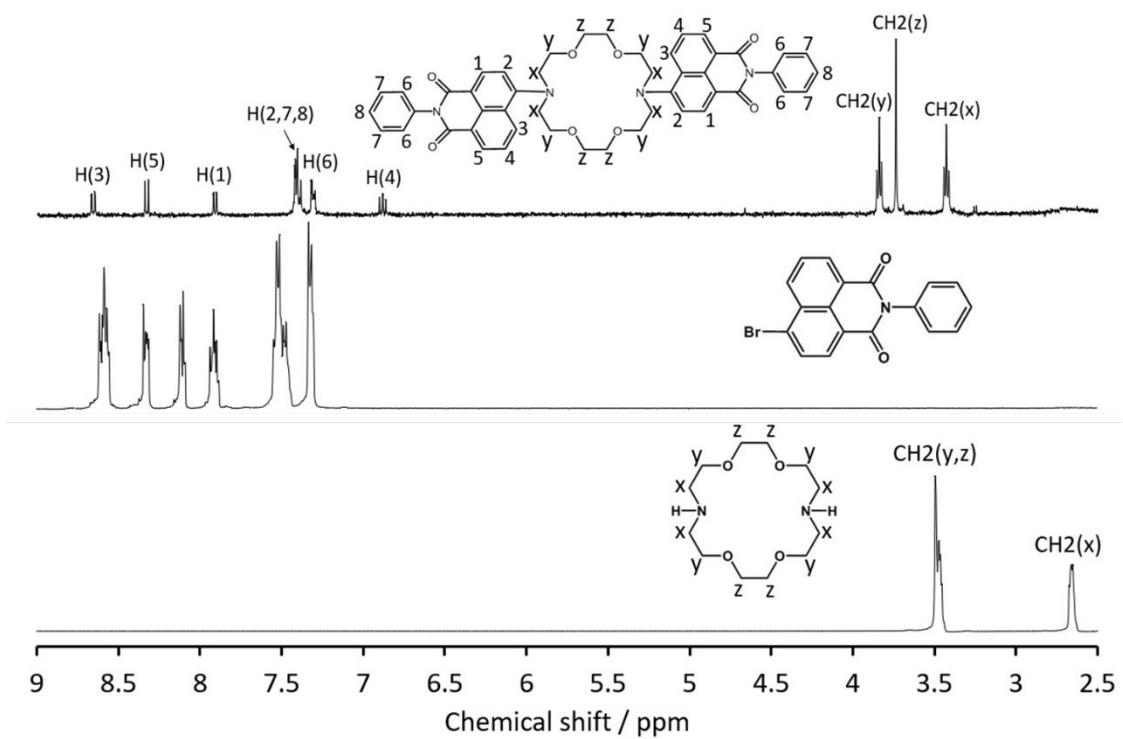


Figure S4-S2. ^1H -NMR spectra of DCE, BPN, and PN-DCE in CD_3CN solvent.

The chemical shift of TMS was adopted as the internal reference of 0 ppm.

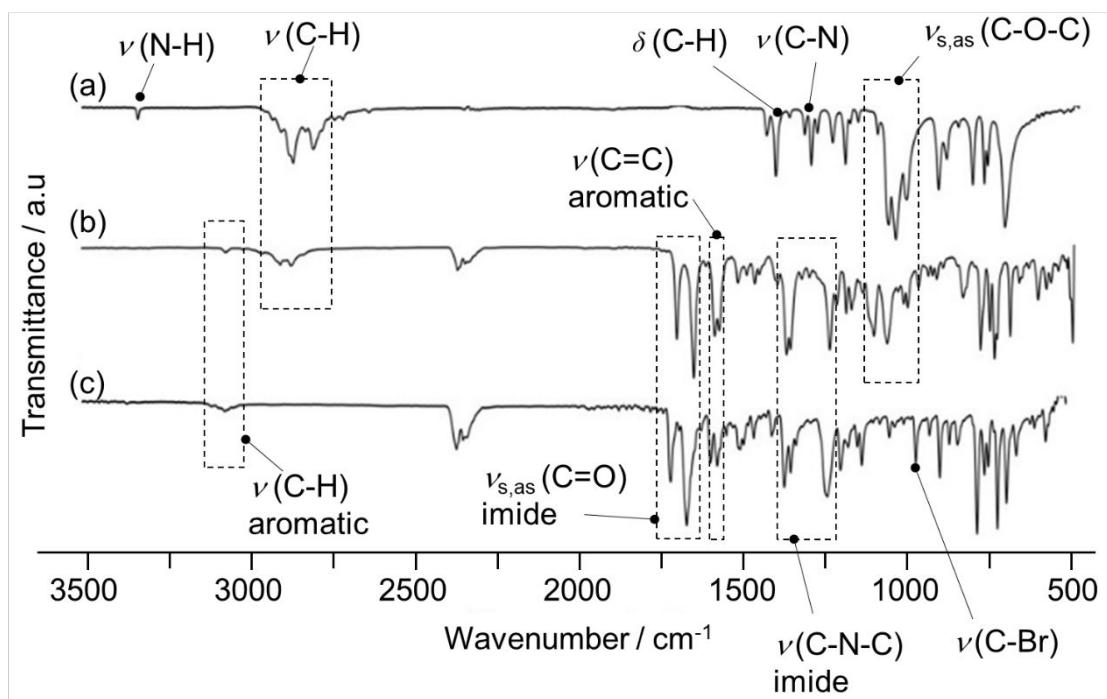


Figure S5-S3. ATR-IR spectra of (a) DCE, (b) PN-DCE, and (c) BPN, respectively.

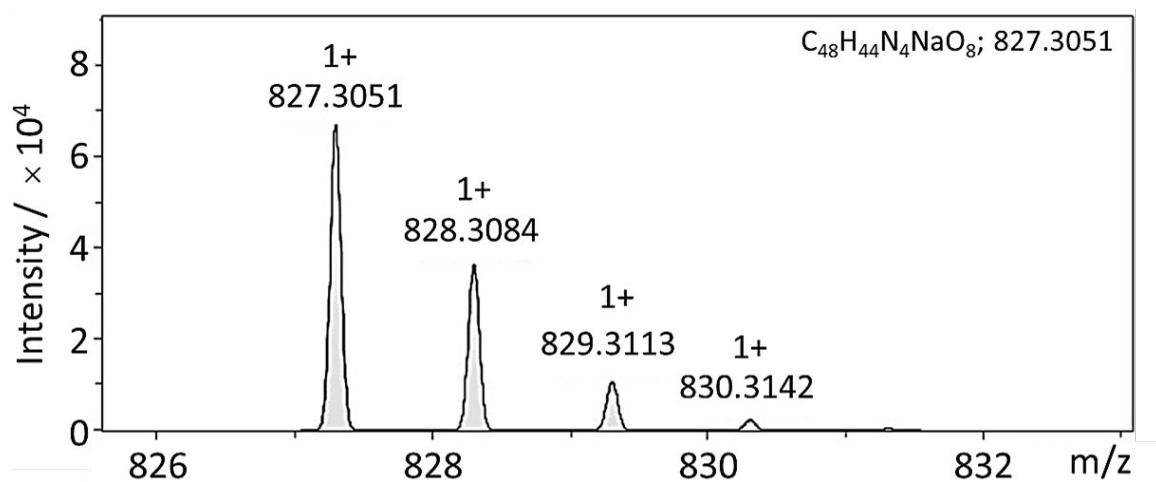


Figure S5-S4. ESI-TOF-MS spectrum of PN-DCE.