

A Thermoresponsive Fluorescent Rotor Based on Gemel Naphthalimide for a Viscometer and Viscosity-related Thermometer

Supplementary data

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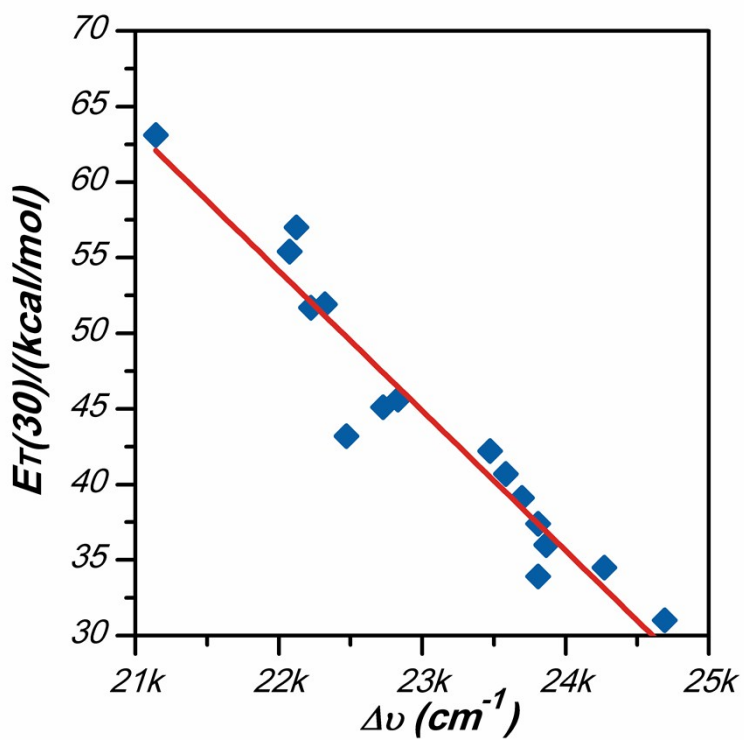


Fig S1 The polarity-related correlation of BNAP towards different organic solvents.

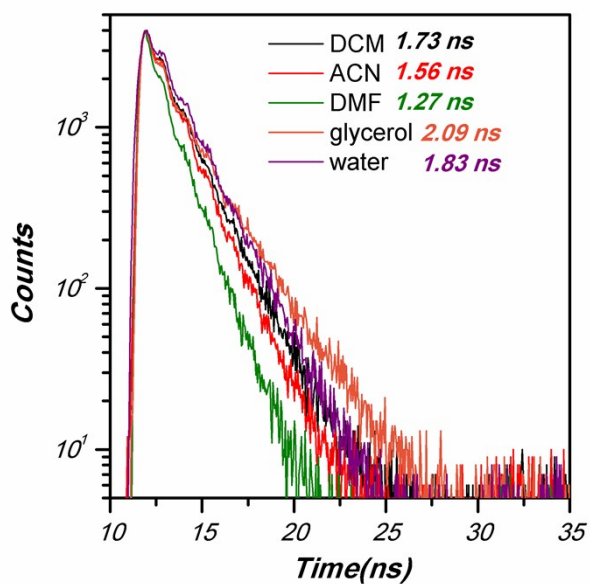


Fig S2 Time-resolved decays of BNAP in DCM, ACN, DMF, glycerol and water

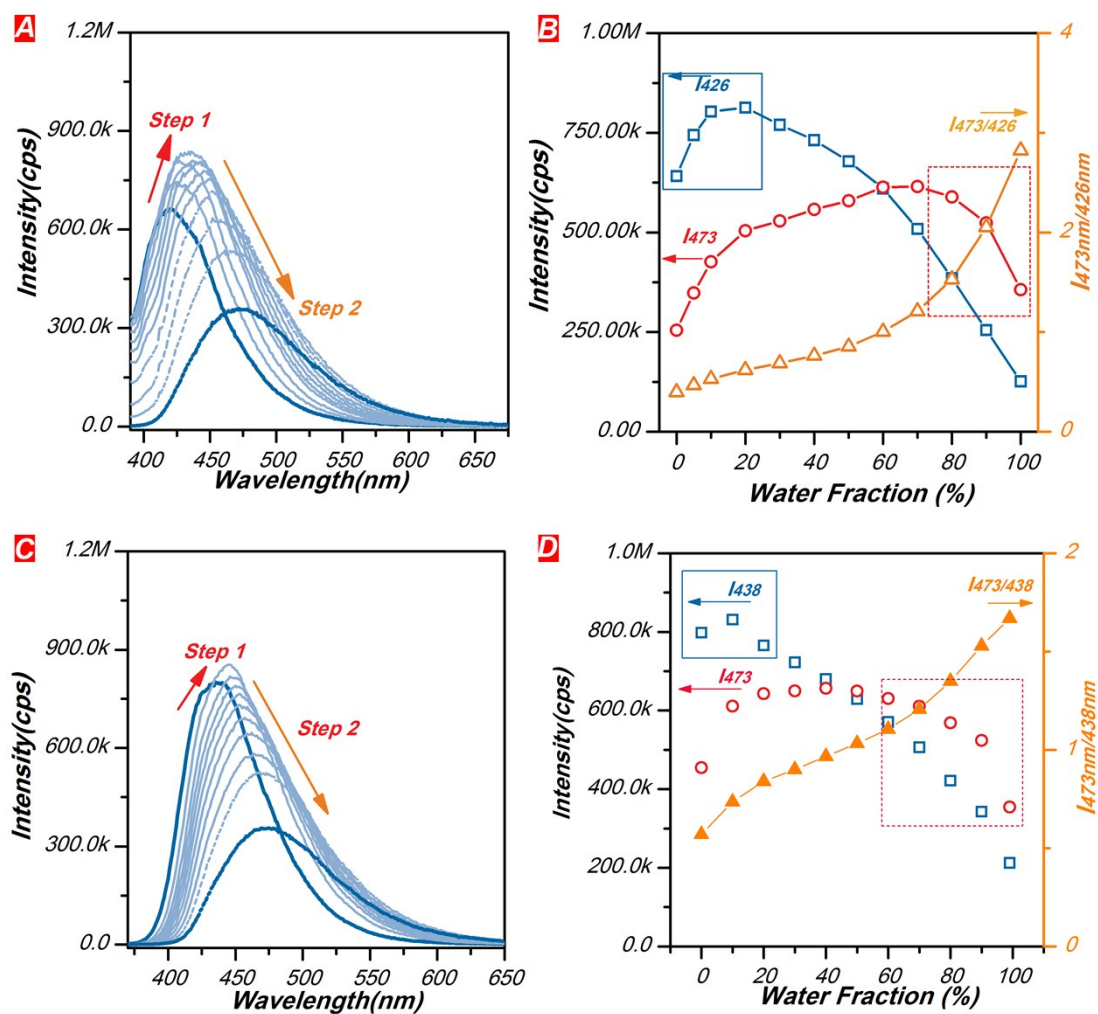


Fig S3. AIE properties. Emission spectra and emission intensity of BNAP upon changing the water content in THF (A,B) and ACN (C,D) solution.

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NAP1

2016/3/24 12:23:18

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Spectrum Offset (Hz)	2470.9683	Spectrum Type	STANDARD	Sweep Width (Hz)	8223.43
				Temperature (degree C)	26.760

¹H NMR (400 MHz, CHLOROFORM-d) δ ppm 7.46 - 7.56 (m, 2 H) 7.67 - 7.74 (m, 1 H) 7.80 (d, J=7.78 Hz, 1 H) 7.89 (d, J=7.28 Hz, 1 H) 8.01 (td, J=7.78, 1.76 Hz, 1 H) 8.73 (d, J=6.53 Hz, 1 H) 8.80 (d, J=3.76 Hz, 1 H) 8.84 (d, J=7.53 Hz, 1 H)

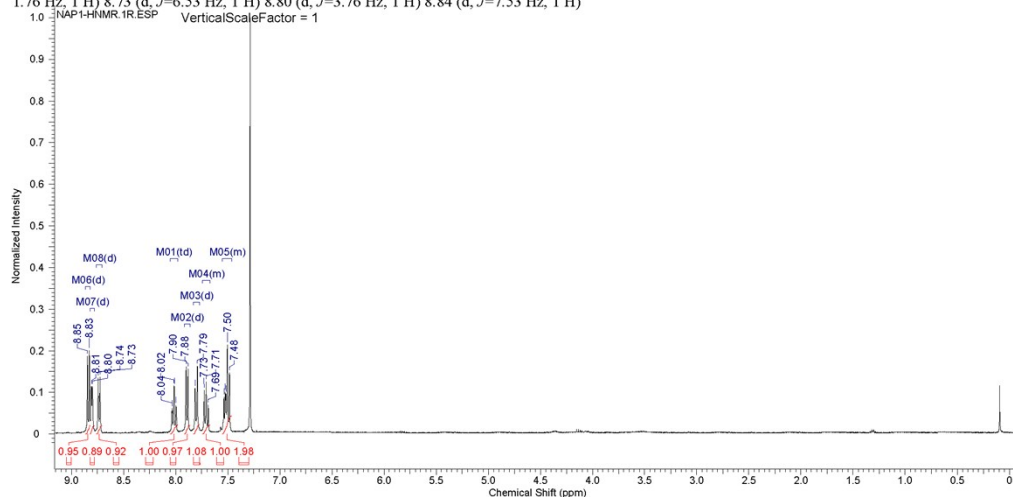


Fig. S4. ¹H NMR spectra of NAP1 in CDCl₃

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NAP1

2016/3/24 12:49:53

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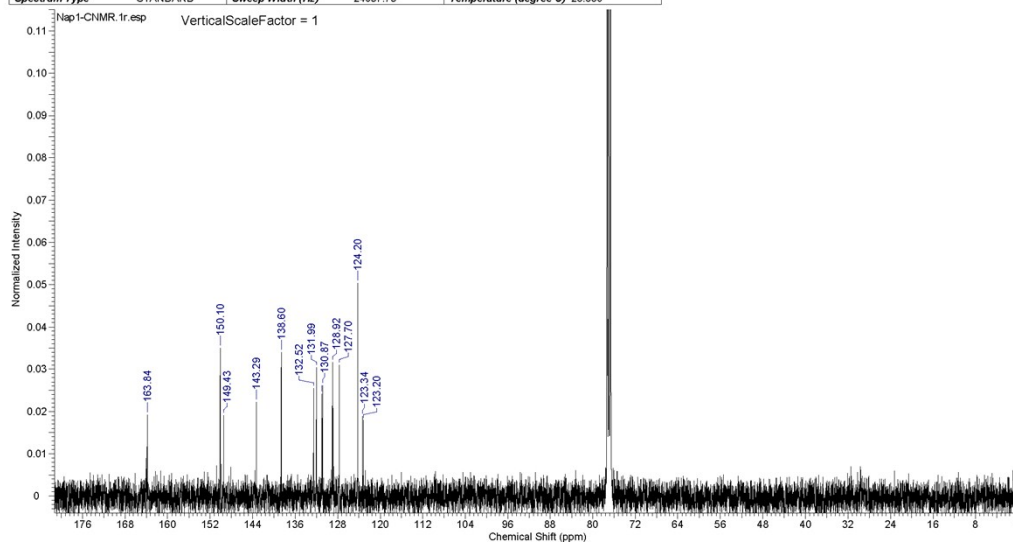


Fig. S5. ¹³C NMR spectra of NAP1 in CDCl₃

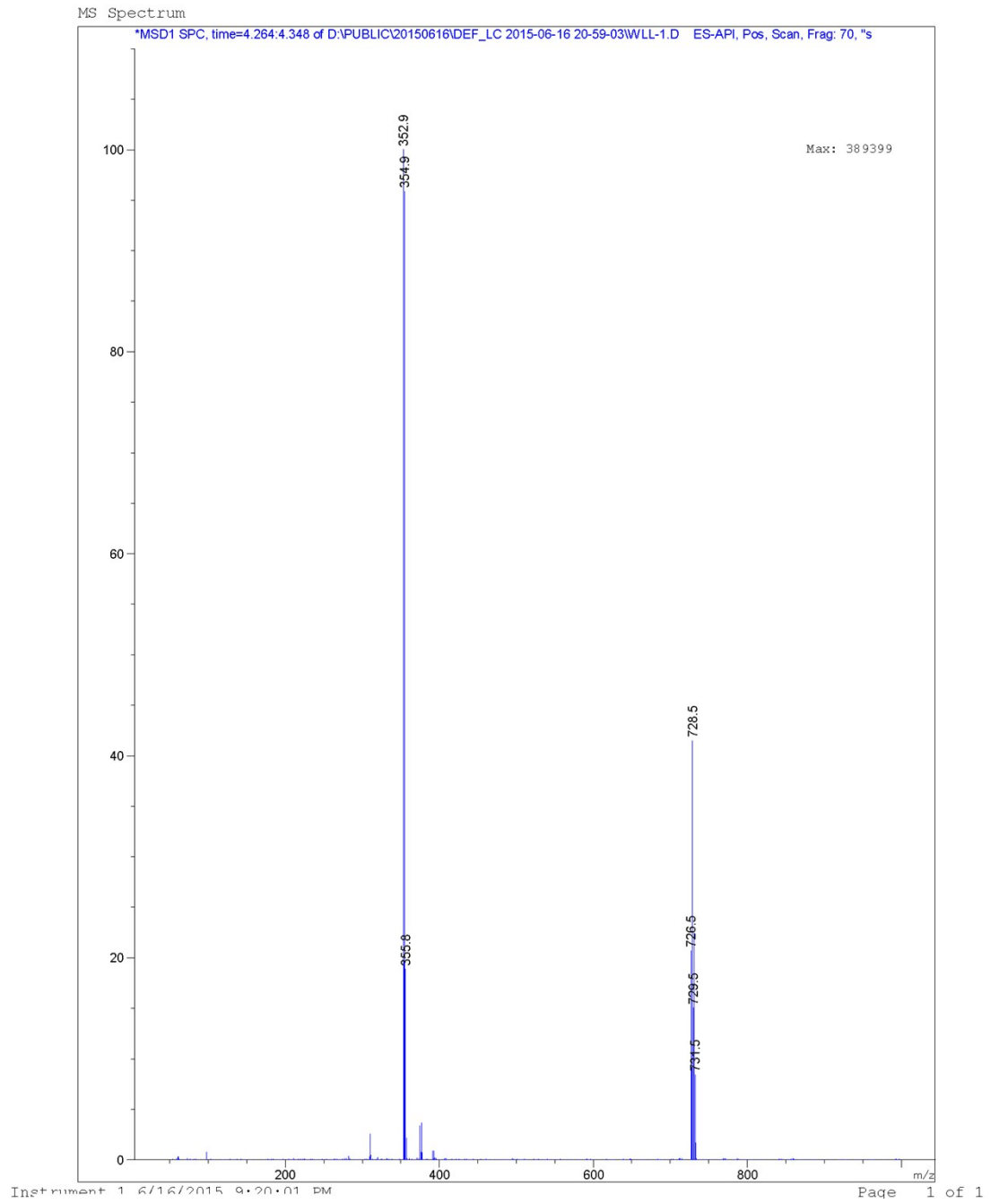


Fig. S6. MS spectra of NAP1

Comment [Y. Qu]: We revised the integration of the NMR peaks.

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BNAP

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Spectrum Offset (Hz)	2470.9883	Spectrum Type	STANDARD	Sweep Width (Hz)	8223.43
				Temperature (degree C)	26.460

¹H NMR (400 MHz, CHLOROFORM-d) δ ppm 7.47 - 7.55 (m, 4 H) 7.71 (dd, *J*=8.53, 7.53 Hz, 2 H) 7.80 (d, *J*=7.78 Hz, 2 H) 7.89 (d, *J*=7.53 Hz, 2 H) 8.02 (td, *J*=7.65, 1.76 Hz, 2 H) 8.73 (d, *J*=6.27 Hz, 2 H) 8.81 (d, *J*=4.02 Hz, 2 H) 8.84 (d, *J*=7.53 Hz, 2 H)

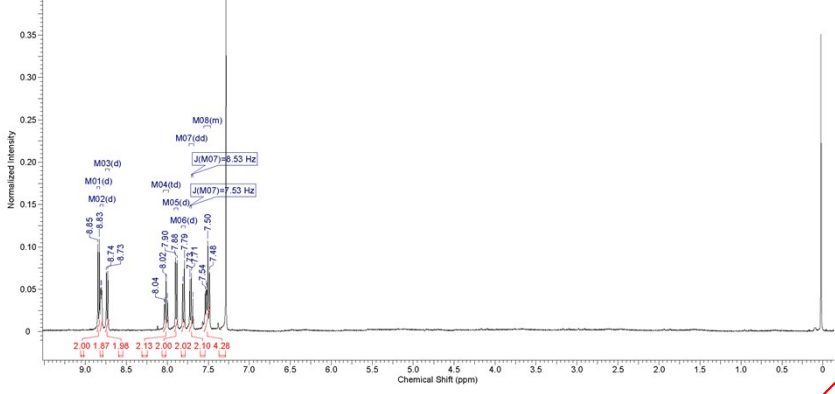


Fig. S7. ¹H NMR of **BNAP** in CDCl₃

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BNAP

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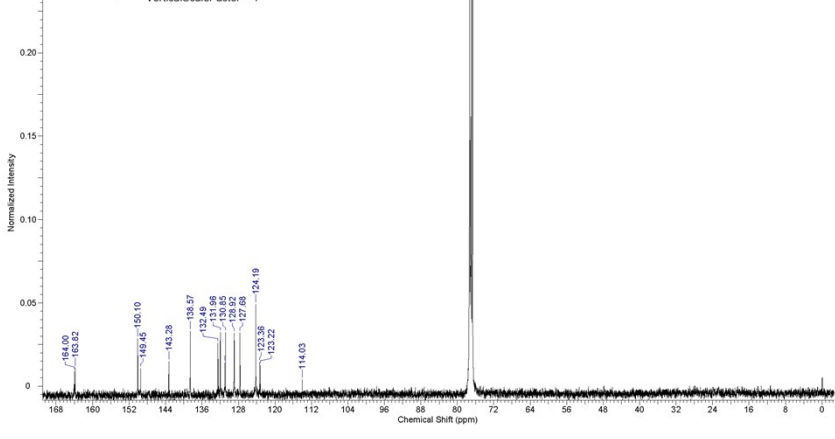


Fig. S8. ¹³C NMR of **BNAP** in CDCl₃

Single Mass Analysis

Tolerance = 50.0 PPM / DBE: min = -1.5, max = 100.0

Element prediction: Off

Number of isotope peaks used for i-FIT = 3

Monoisotopic Mass, Even Electron Ions

1136 formula(e) evaluated with 51 results within limits (up to 1 closest results for each mass)

Elements Used:

C: 0-43 H: 0-100 N: 1-5 O: 0-20 Na: 0-1

HUA-JL

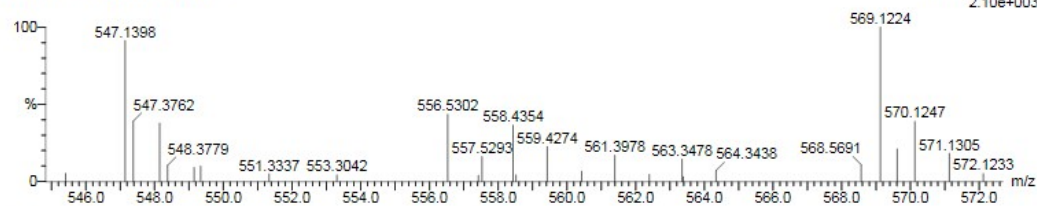
ECUST institute of Fine Chem

08-Mar-2016

HL-YJ-001 20 (0.692) Cm (9:24)

15:49:30

1: TOF MS ES+
2.10e+003



Minimum:

Maximum: 300.0 50.0 -1.5

100.0

Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	i-FIT (Norm)	Formula
569.1224	569.1226	-0.2	-0.4	27.5	26.5	0.0	C34 H18 N4 O4 Na

Fig. S9. MS spectra of **BNAP**