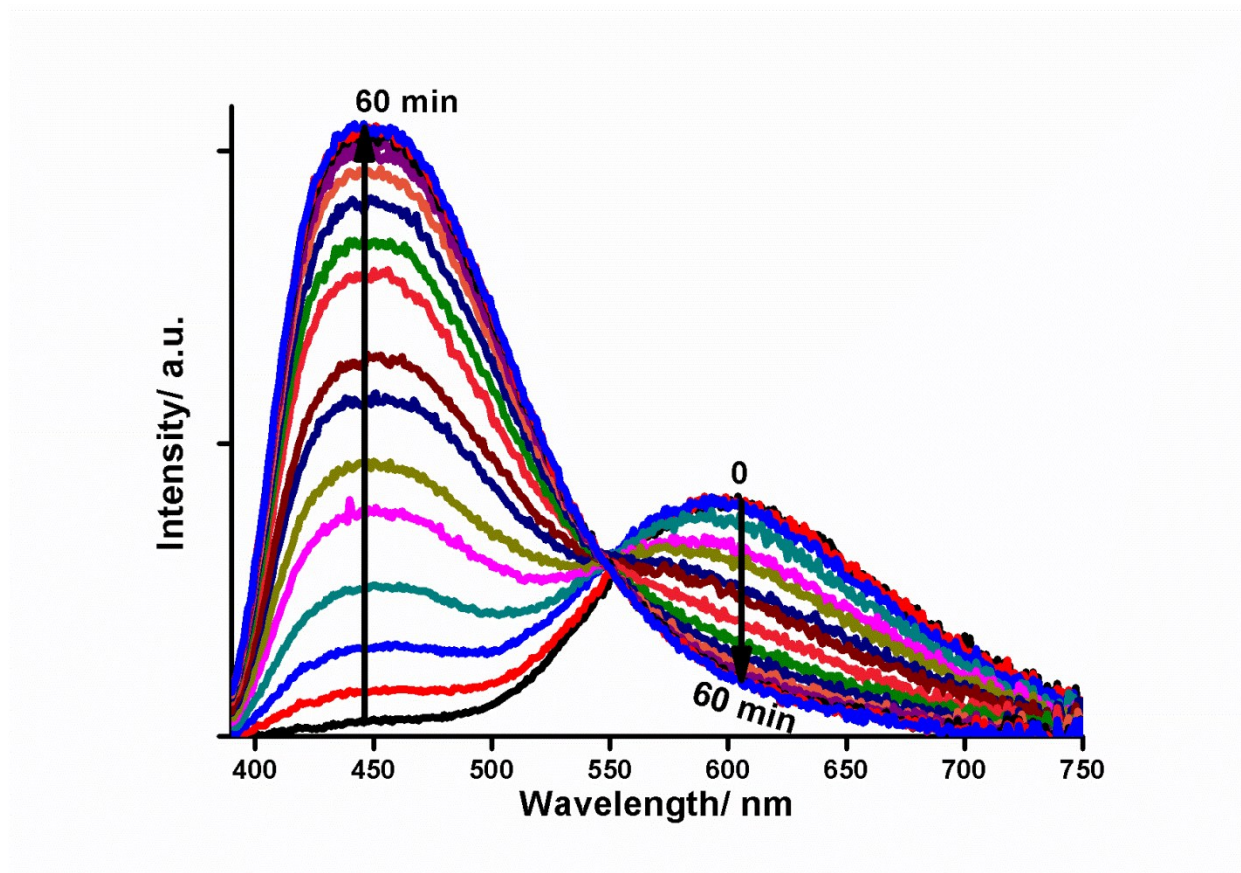
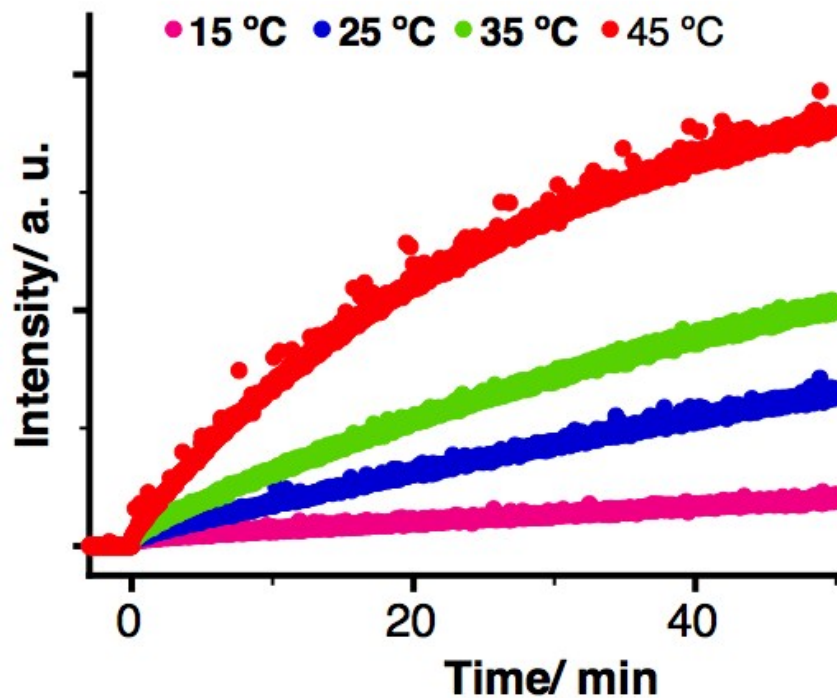


## Electronic Supporting Information

### Spectroscopic Investigation of Bio-mimetic Solvolysis of 6-(*N,N*-dimethylamino)-2,3-naphthalic Anhydride in Confined Nanocavities



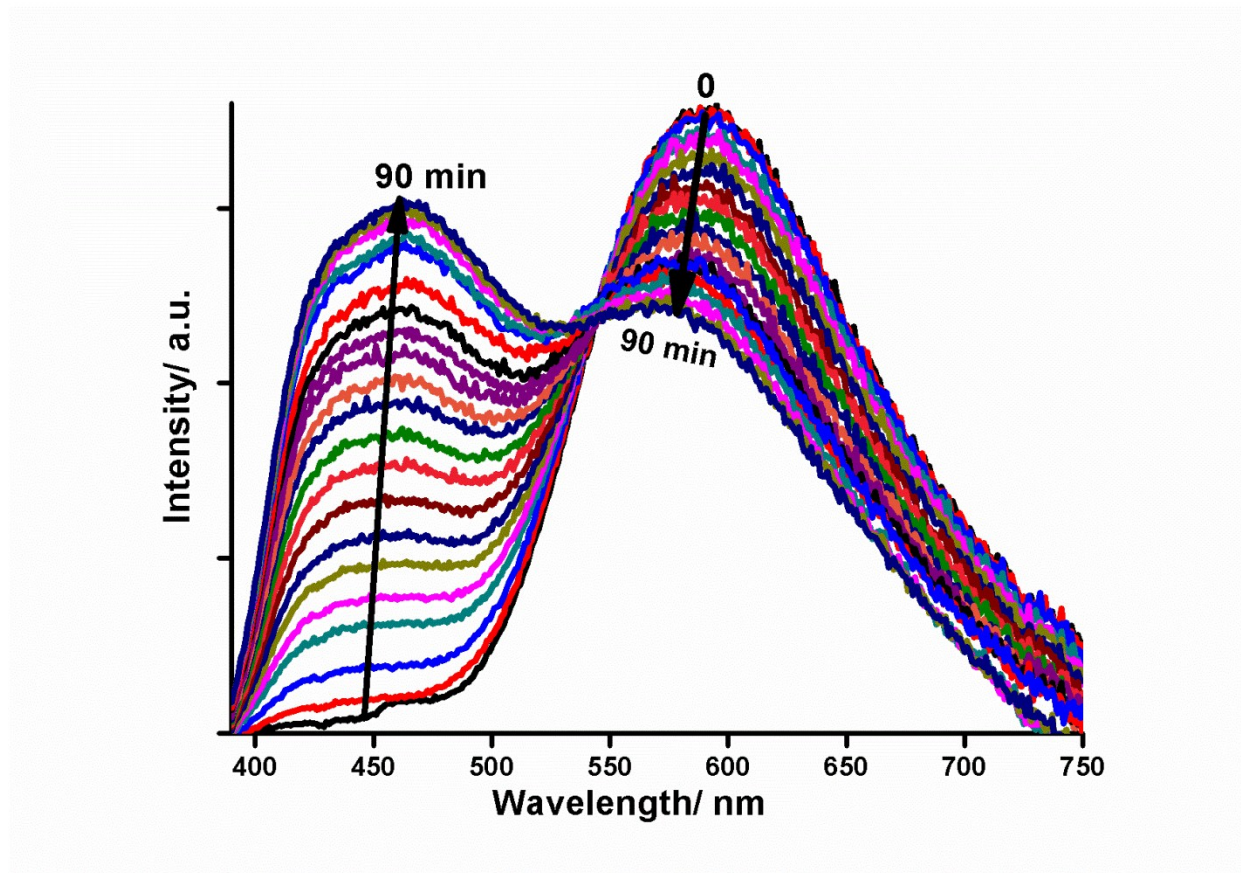
**Figure S1:** Steady state fluorescence spectra of solvolysis of DMN-Anh in ethanol at 45 °C



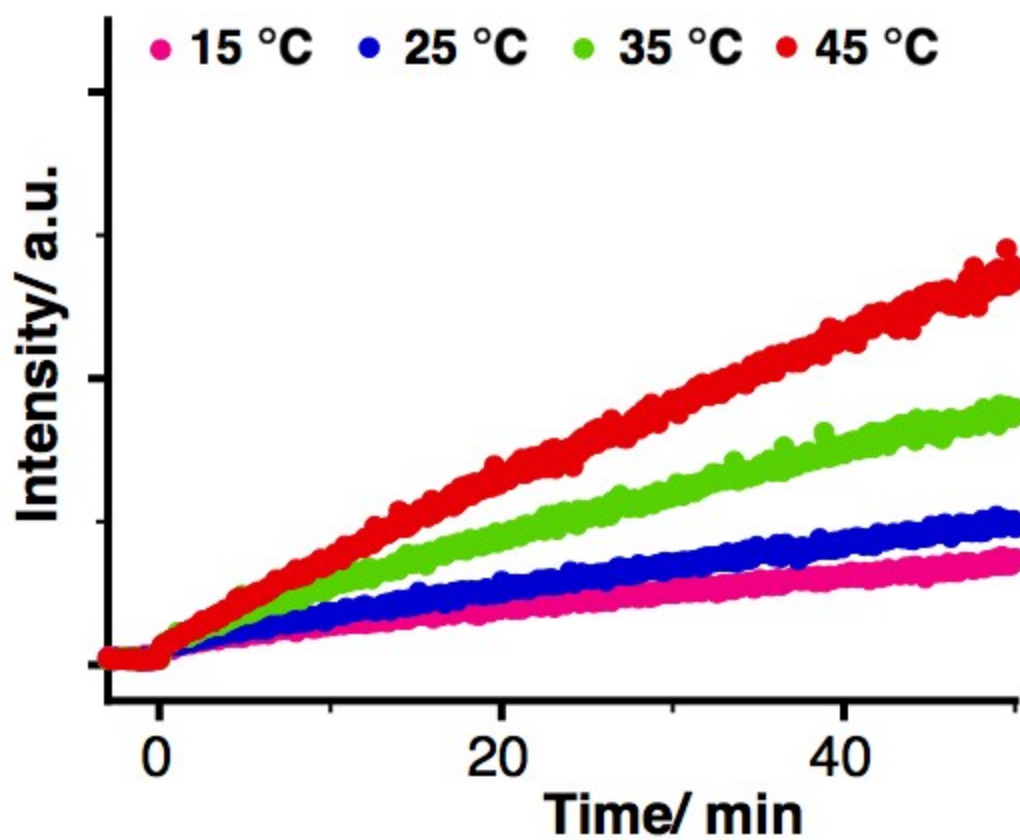
**Figure S2:** Kinetics of DMN-Anh in ethanol at different temperatures monitoring the fluorescence intensity at 450 nm

**Table S1:** Temperature dependent rate constant values in case of MeOH and BuOH

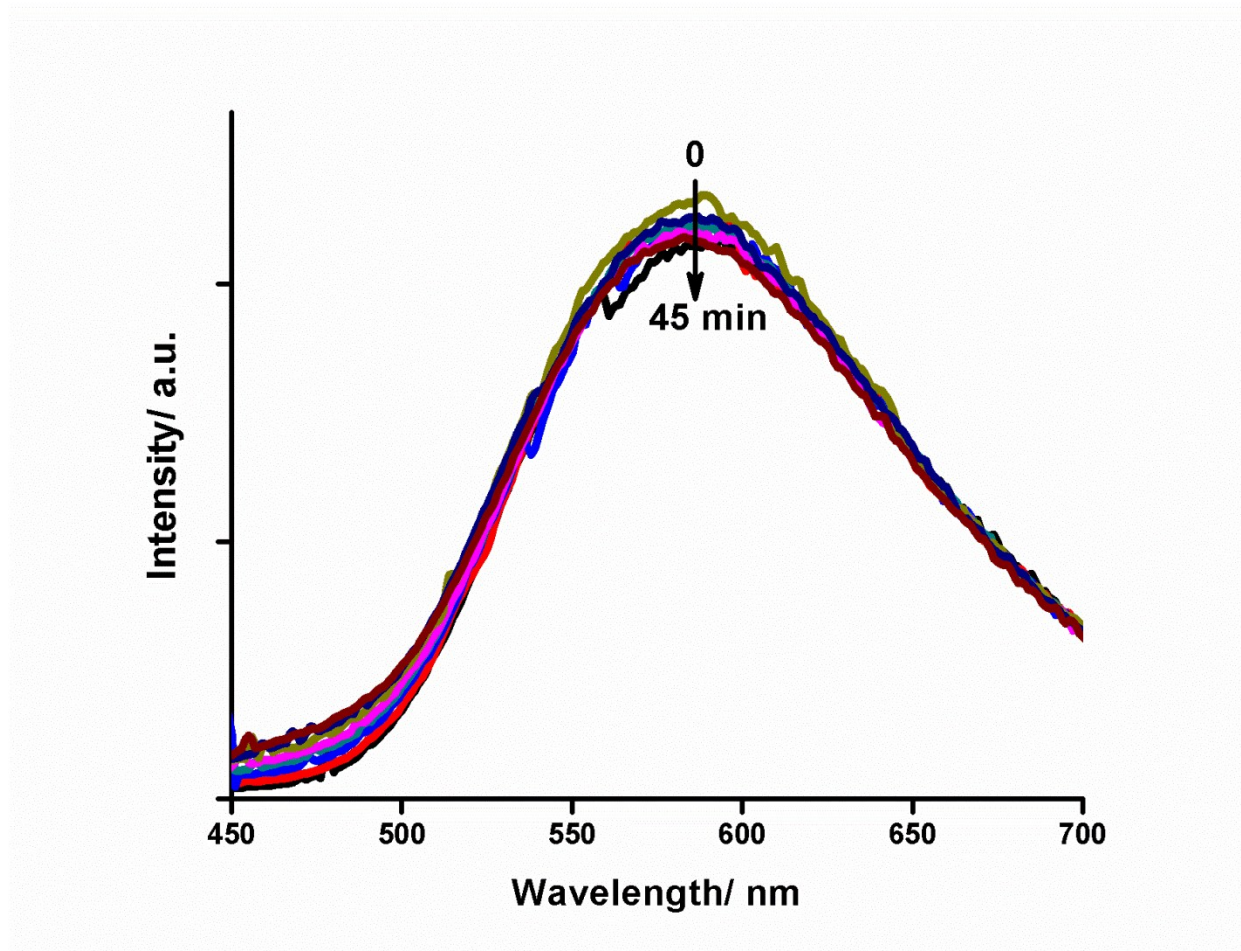
k (MeOH)	lnk (MeOH) (min <sup>-1</sup> )	k (BuOH)	lnk (BuOH) (min <sup>-1</sup> )	1/T (K <sup>-1</sup> )
460000	13.03898	2680.3	7.89368	3.14000e-3
280000	12.54254	1641.8	7.40355	3.24700e-3
170000	12.04355	898.0	6.80017	3.36000e-3
67000	11.11245	647.0	6.47235	3.47000e-3



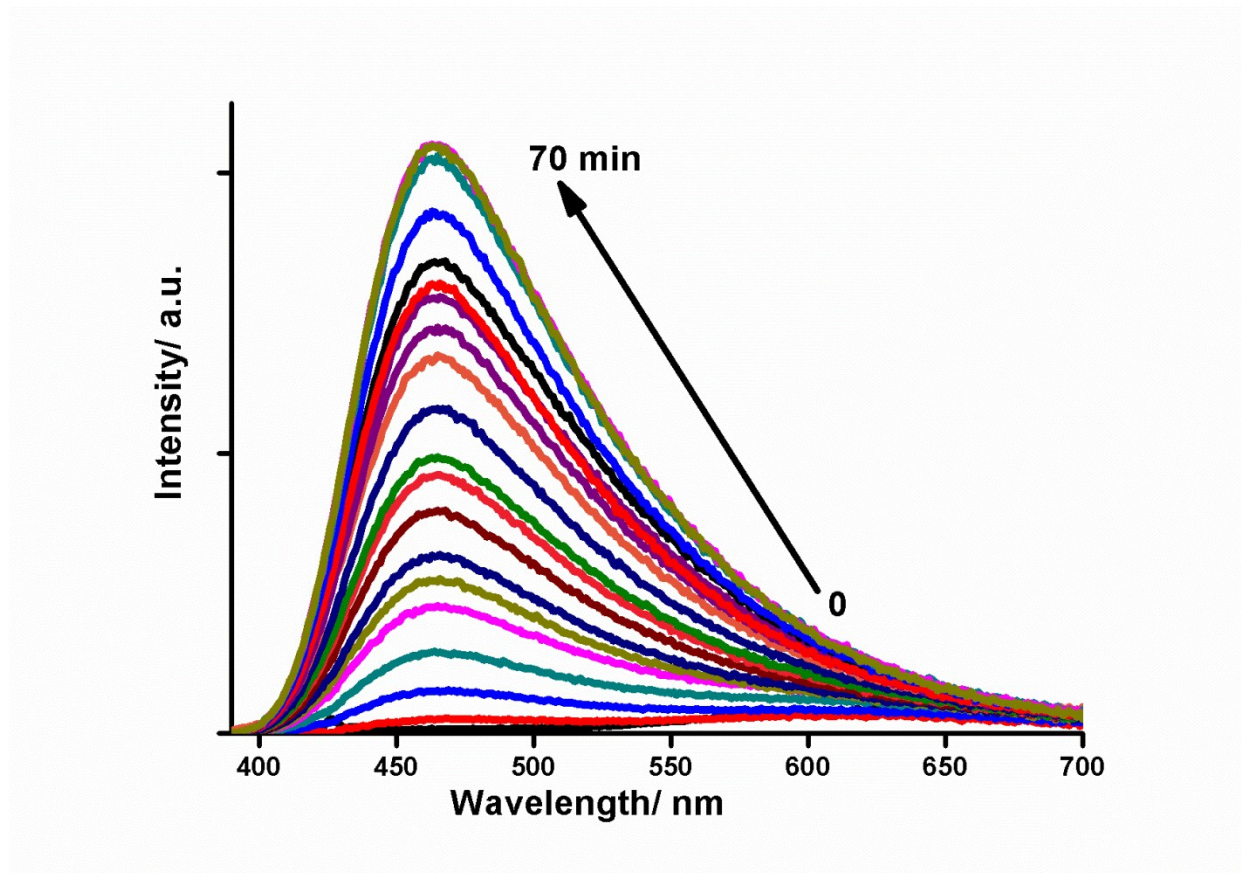
**Figure S3:** Steady state fluorescence spectra of solvolysis of DMN-Anh in propanol at 25 °C



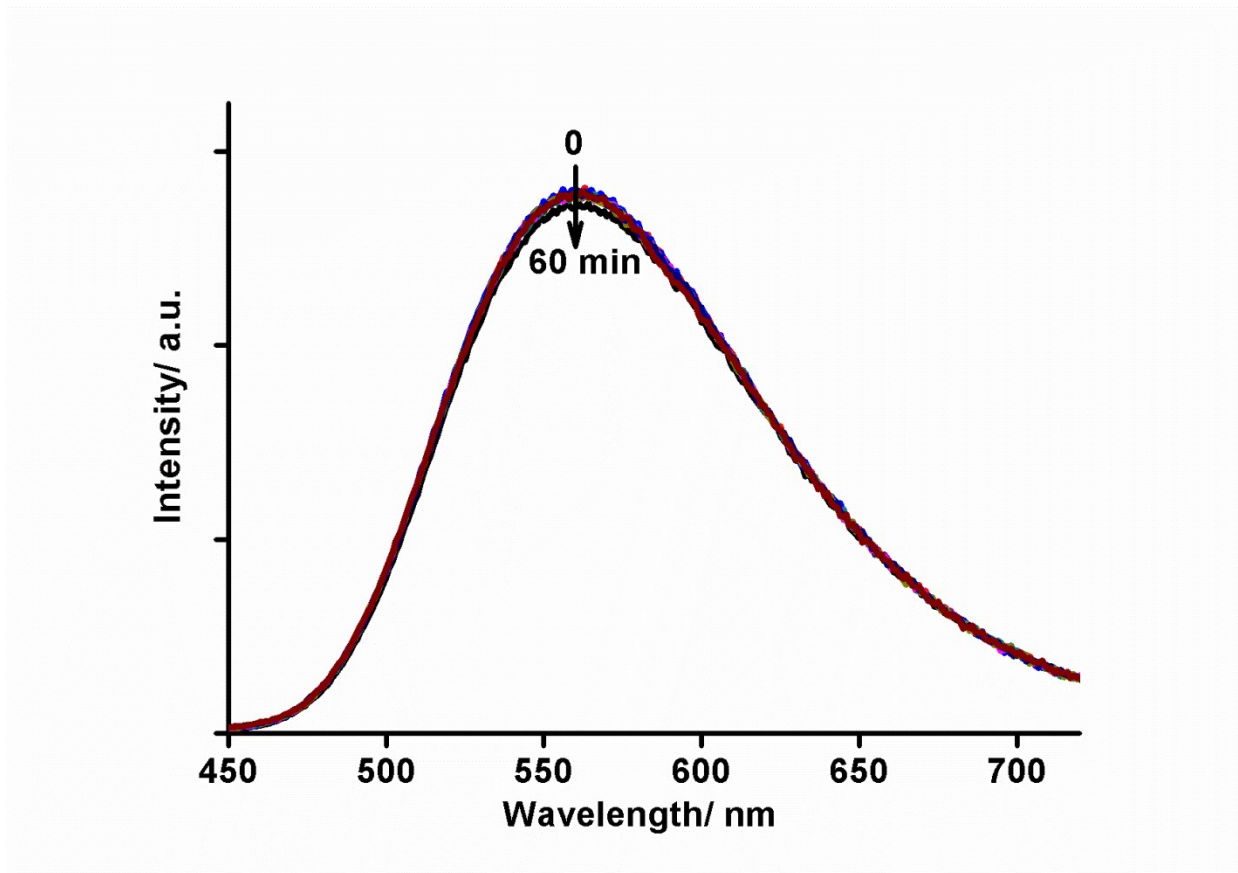
**Figure S4:** Kinetics of DMN-Anh in propanol at different temperatures monitoring the fluorescence intensity at 450 nm



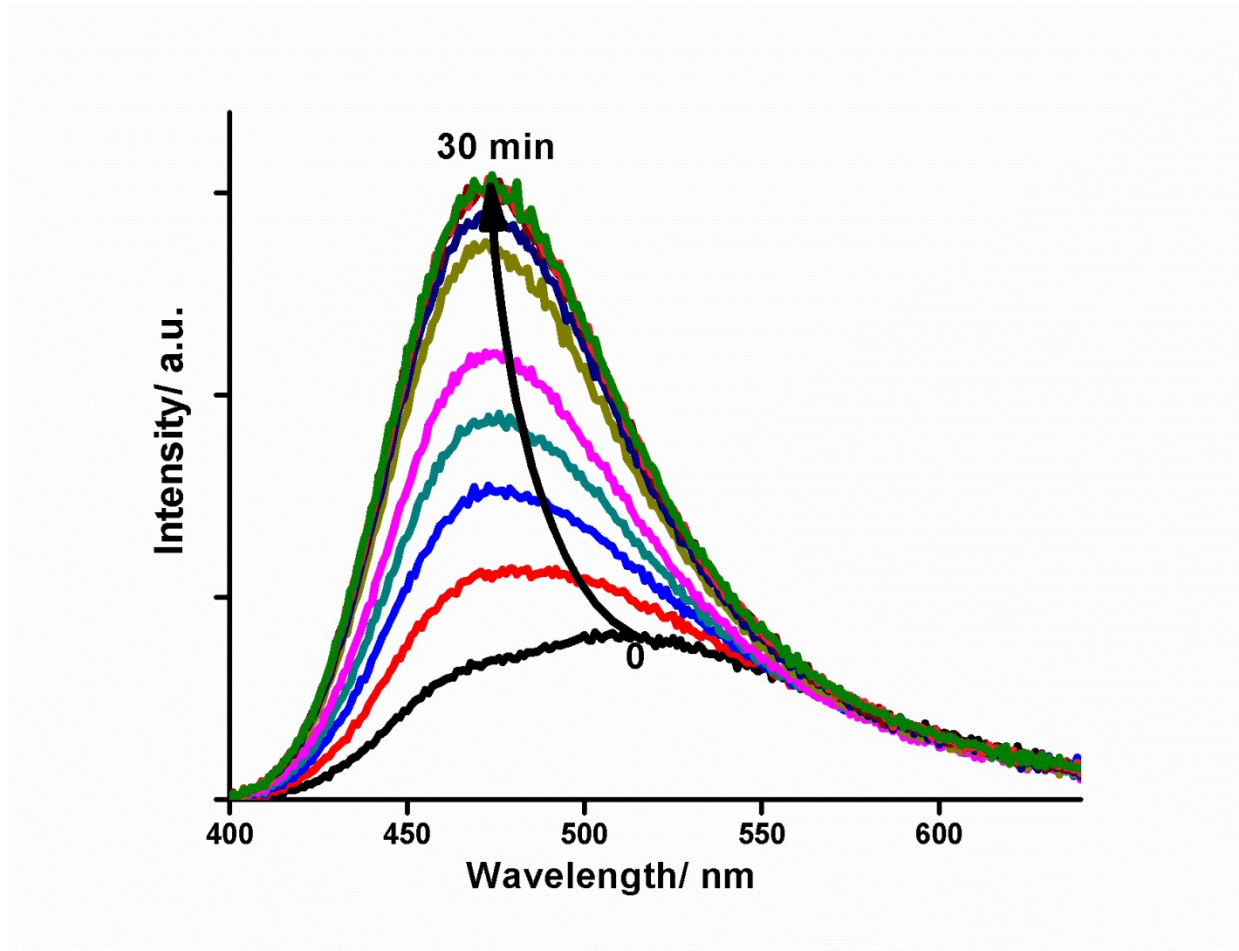
**Figure S5:** Steady state fluorescence spectra of solvolysis of DMN-Anh in *n*-butanol at 45 °C



**Figure S6:** Steady state fluorescence spectra of solvolysis of DMN-Anh in ethylene glycol at 15 °C

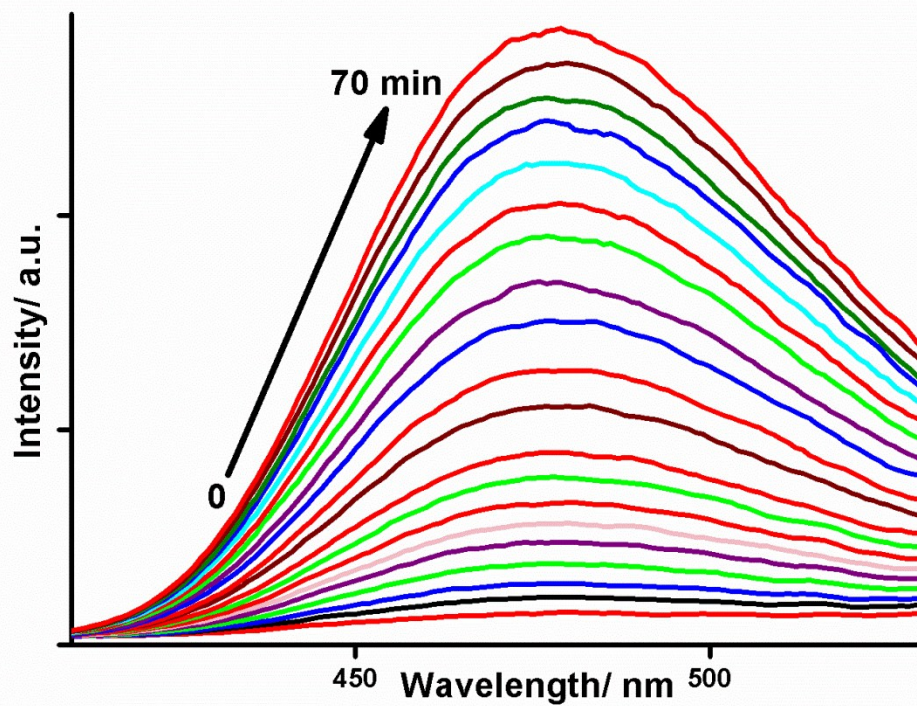


**Figure S7:** Steady state fluorescence spectra of solvolysis of DMN-Anh in *tert*-Butanol at 45 °C

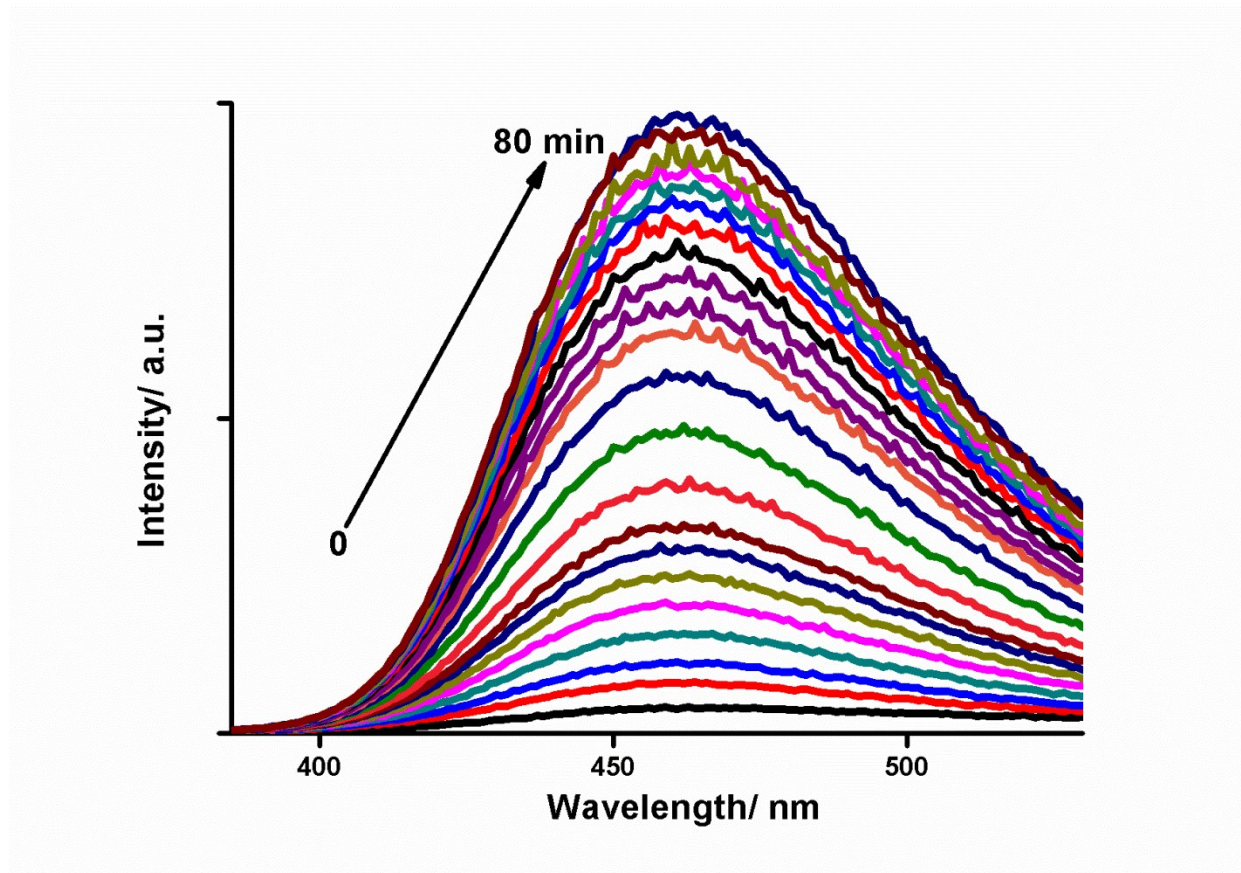


**Figure S8:** Steady state fluorescence spectra of hydrolysis of DMN-Anh in water at 45 °C

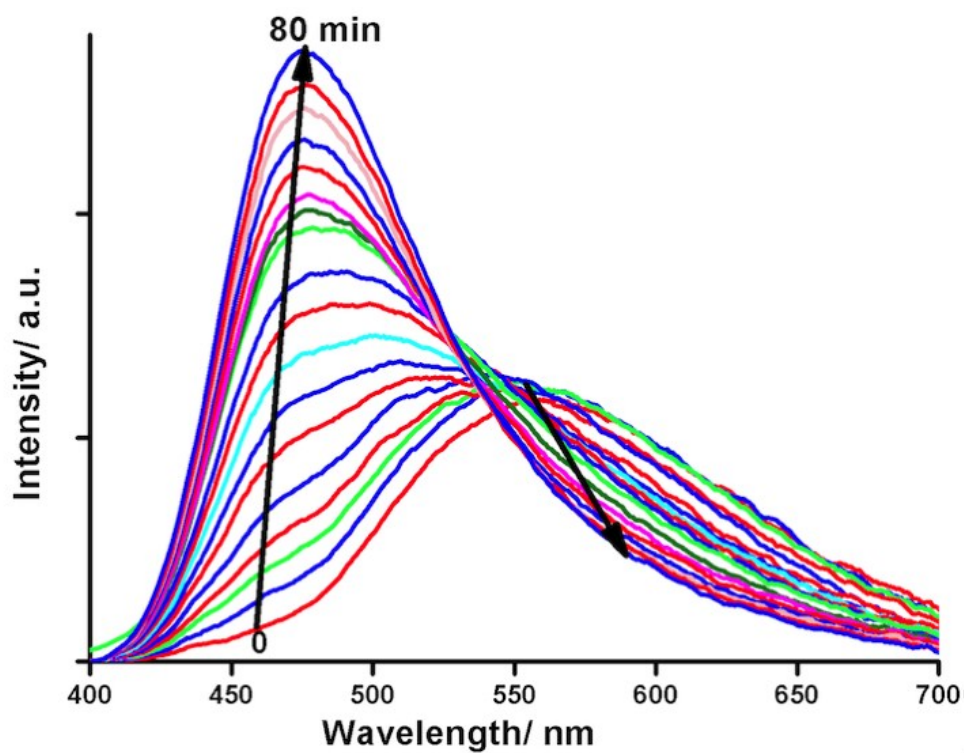




**Figure S9:** Steady state fluorescence spectra of hydrolysis of DMN-Anh in water in presence of 20 mM SDS at 25 °C

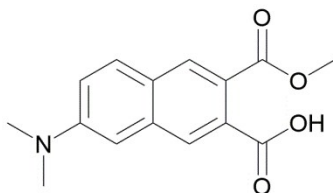


**Figure S10:** Steady state fluorescence spectra of hydrolysis of DMN-Anh in water in presence of 4 mM CTAB at 25 °C



**Figure S11:** Steady state fluorescence spectra of hydrolysis of DMN-Anh in water in presence of 2 mM TX-100 at 25 °C

### **Mass Spectra of Methanolysis Product of DMN-Anh**



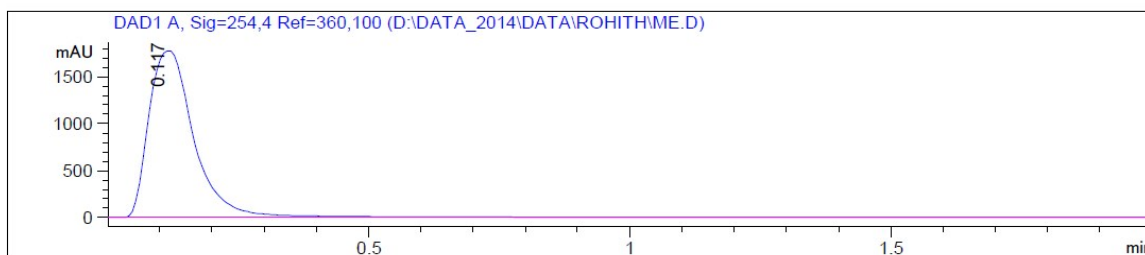
LC-MS REPORT  
IISER - BHOPAL

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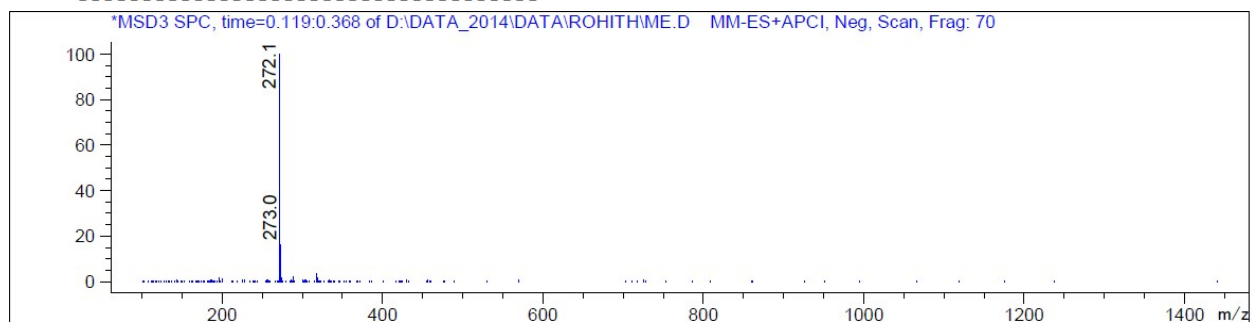
=====
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Injection Date  : 3/29/2016
Sample Name     : ME
Acq Method      : D:\DATA_2014\METHODS\MAHESH\MIDPOLAR_DM.M
Vial No.       : Vial 32
Injection vol   : 5.00 ul
=====

```

!\*\*\*\*\* error in user defined macro: USR\_ADConly\*\*\*\*\*!

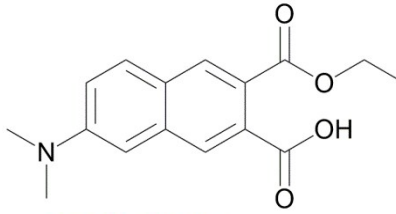


Peak No	RT min	Area	Area %
1	0.117	1.092e+004	100.000



**Figure S12:** Exact mass (M) calculated 273.1, mass obtained in negative mode 272.1 (M<sup>-</sup> ion), and 273.0 (M)

## Mass Spectra of Ethanolysis Product of DMN-Anh



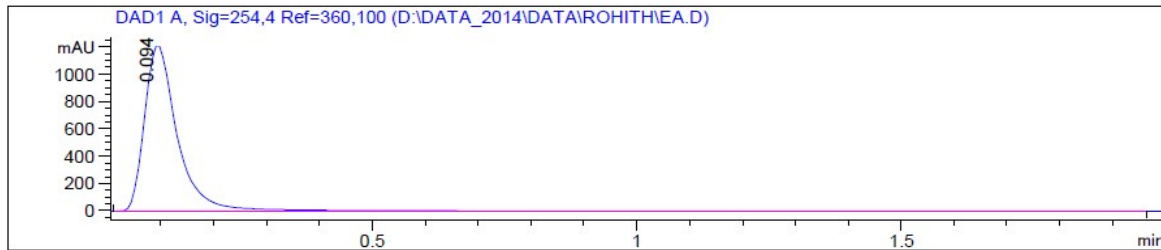
LC-MS REPORT  
IISER - BHOPAL

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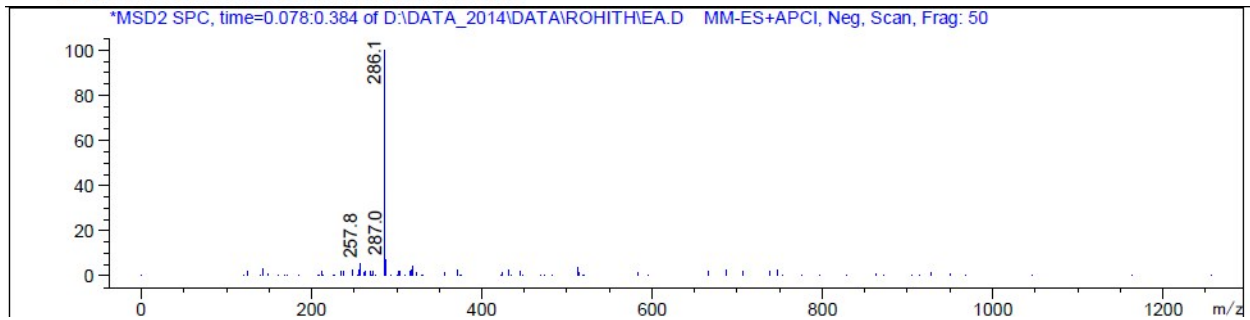
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Injection Date  : 3/29/2016
Sample Name     : EA
Acq Method     : D:\DATA_2014\METHODS\MAHESH\MIDPOLAR_DM.M
Vial No.       : Vial 31
Injection vol   : 5.00 ul
=====

```

!\*\*\*\*\* error in user defined macro: USR\_ADOnly\*\*\*\*\*!



Peak No	RT min	Area	Area %
1	0.094	5.433e+003	100.000



**Figure S13:** Exact mass (M) calculated 287.1, mass obtained in negative mode 286.1 ( $M^-$  ion), and 287.0 (M)