

SUPPORTING INFORMATION

**Elucidating the Molecular Interactions of
Encapsulated Doxorubicin within a Nonionic,
Thermoresponsive Polyester Coacervate**

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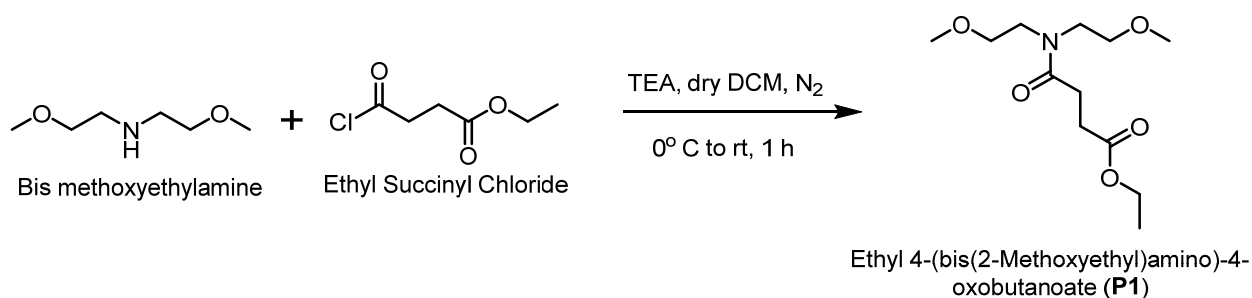
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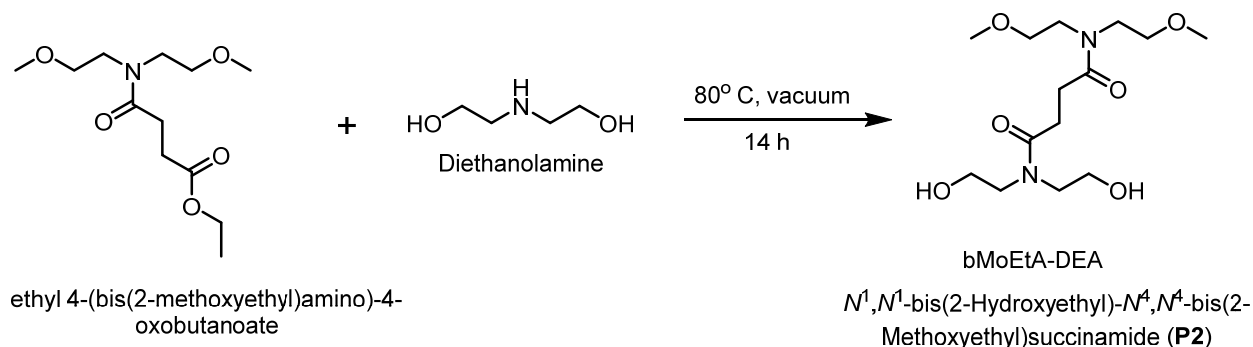
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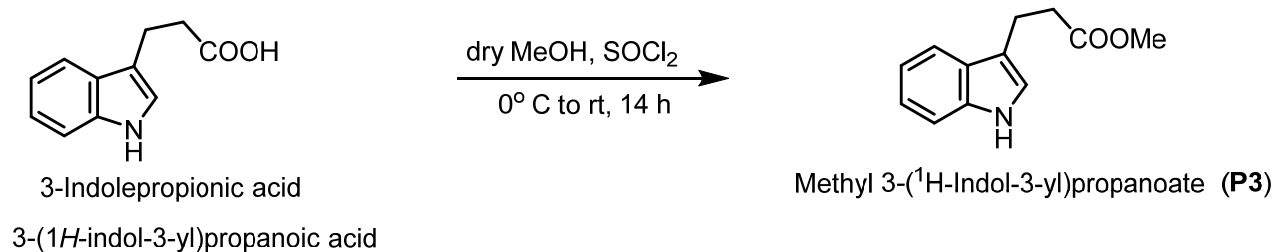
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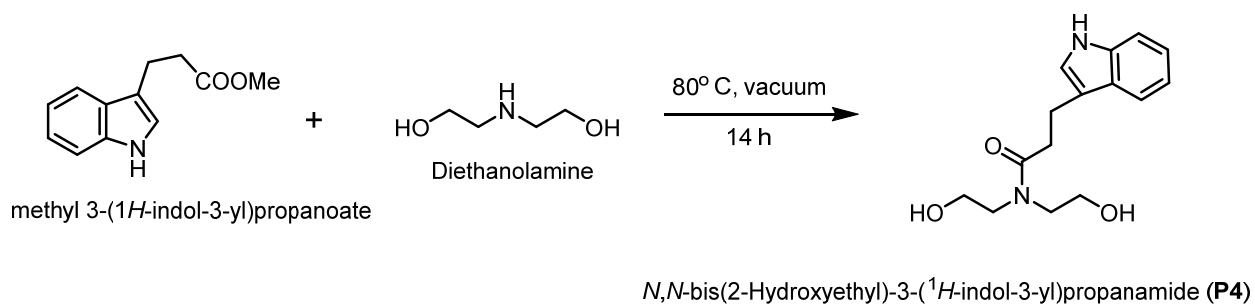
Scheme S1: Synthetic route of Ethyl 4-(bis(2-Methoxyethyl)amino)-4-oxobutanoate (bMoEtSA) (**P1**).



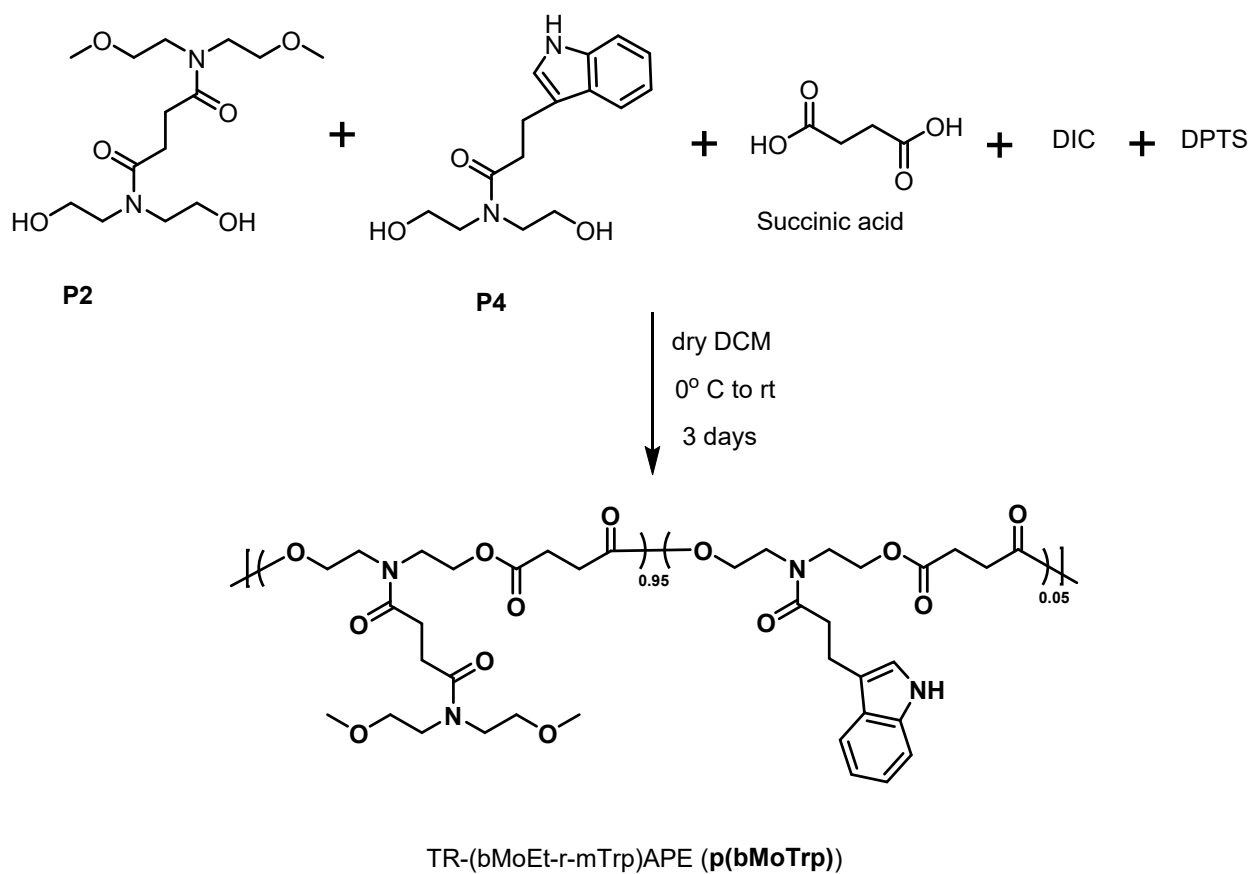
Scheme S2: Synthetic route of N^1,N^1 -bis(2-Hydroxyethyl)- N^4,N^4 -bis(2-Methoxyethyl)succinamide (bMoEtDEA) (**P2**).



Scheme S3: Synthetic route of Methyl 3-($^1\text{H-Indol-3-yl}$)propanoate (**P3**).



Scheme S4: Synthetic route of *N,N*-bis(2-Hydroxyethyl)-3-(1*H*-indol-3-yl)propanamide (**P4**).



Scheme S5: Synthetic route of thermoresponsive polymer (TR-(bMoEt-r-mTrp)APE (**p(bMoTrp)**)).

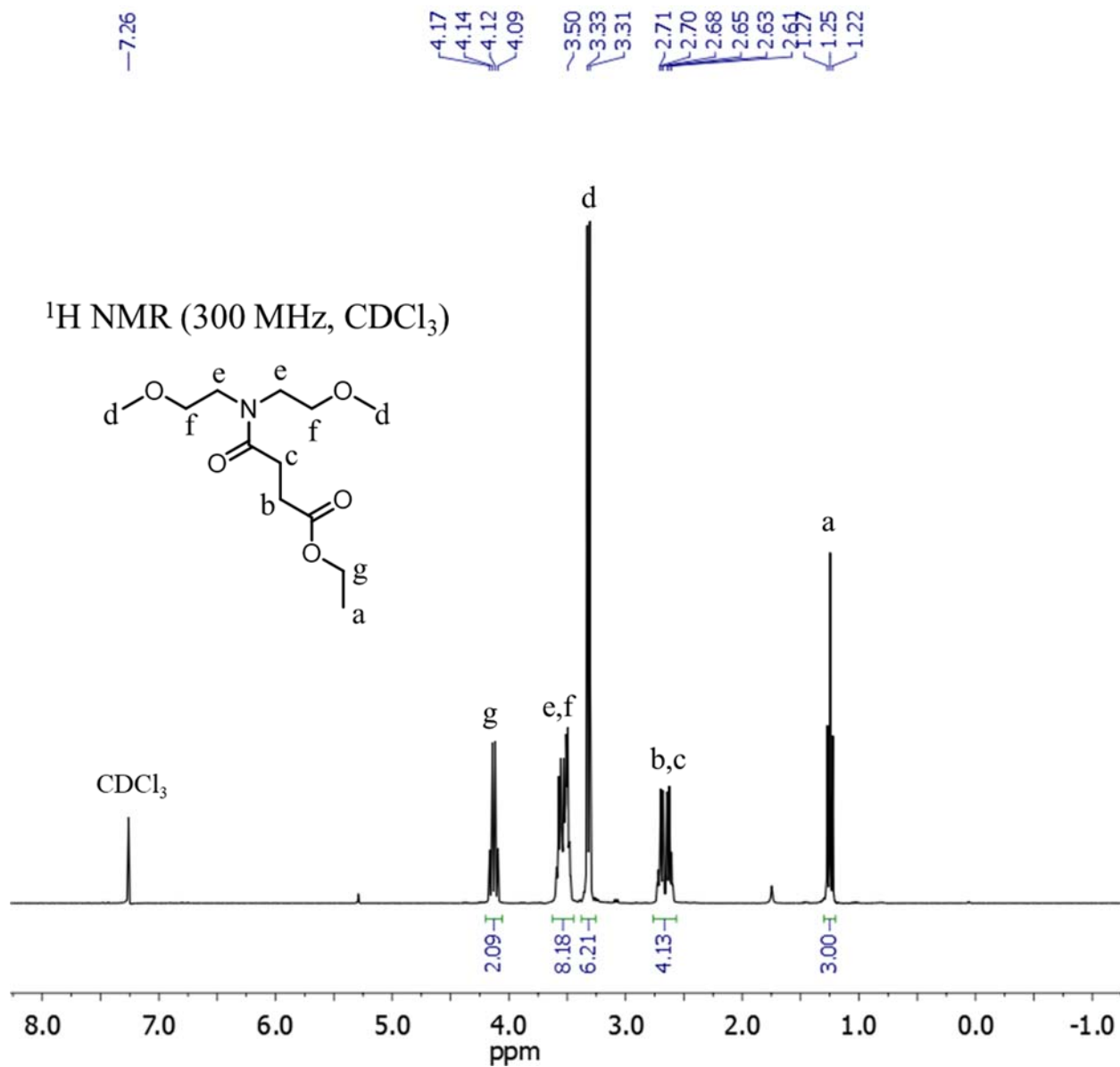


Figure S1. ¹H NMR spectrum of **P1** (in CDCl₃, 300 MHz).

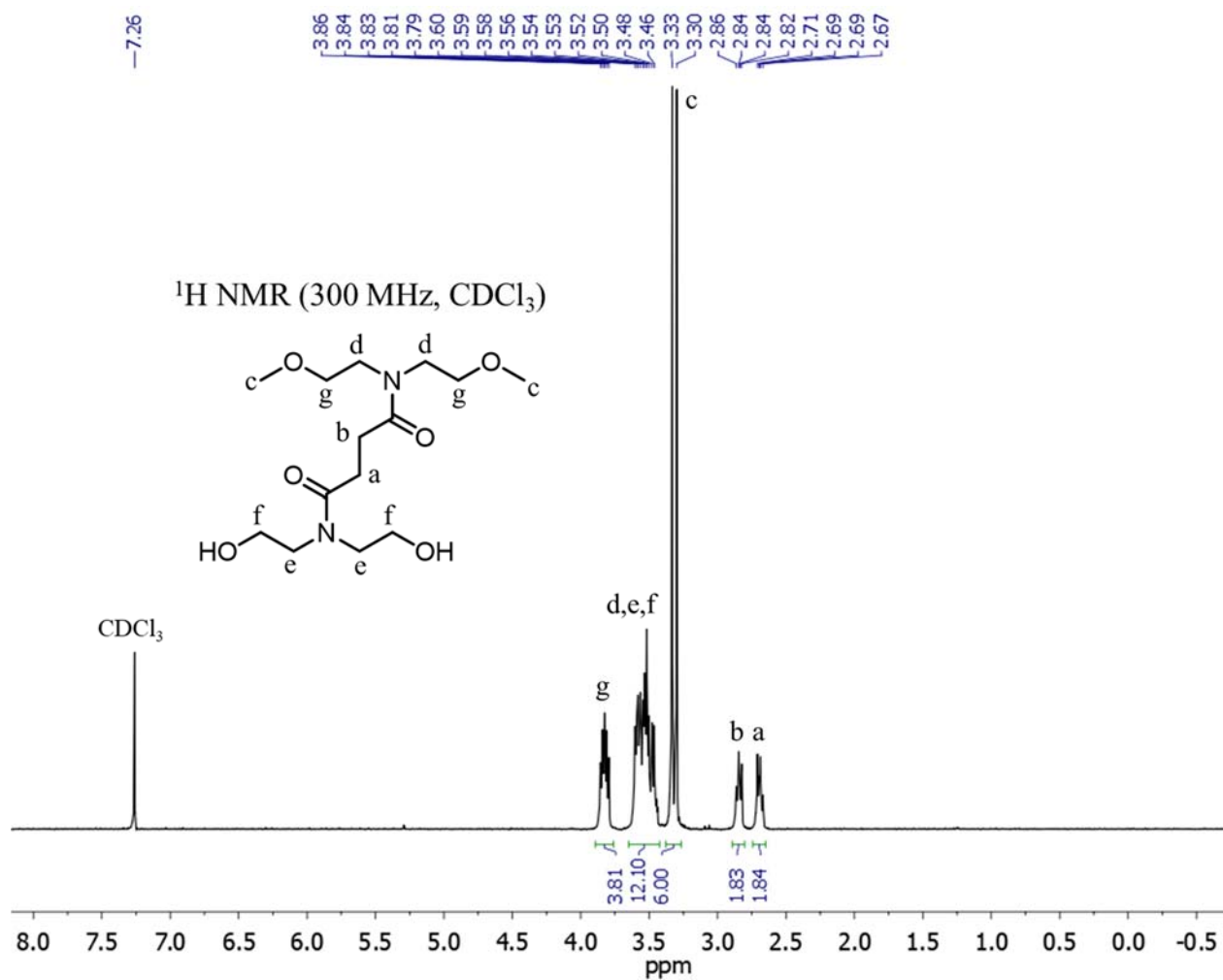


Figure S2. ¹H NMR spectrum of **P2** (in CDCl₃, 300 MHz).

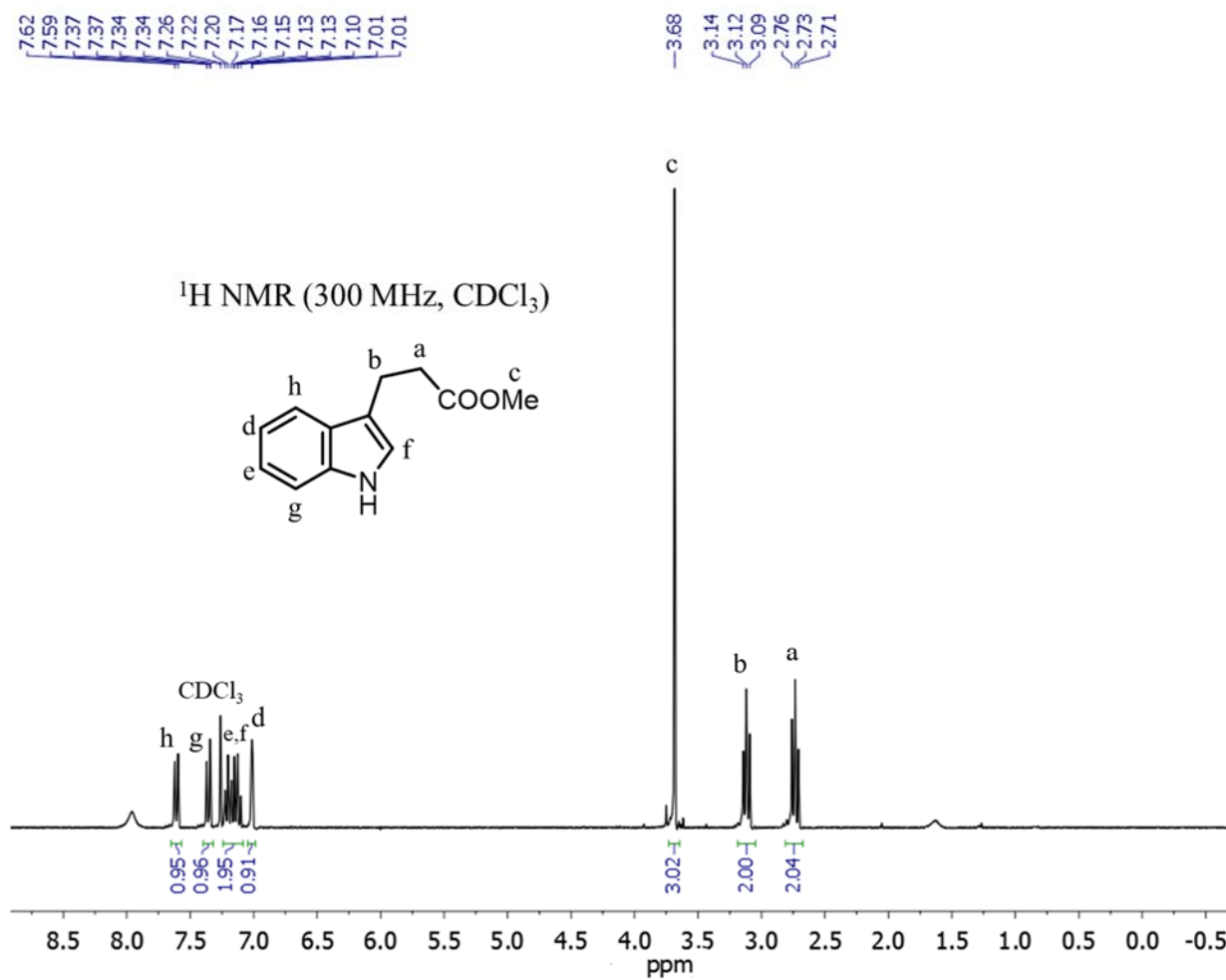


Figure S3. ¹H NMR spectrum of **P3** (in CDCl₃, 300 MHz).

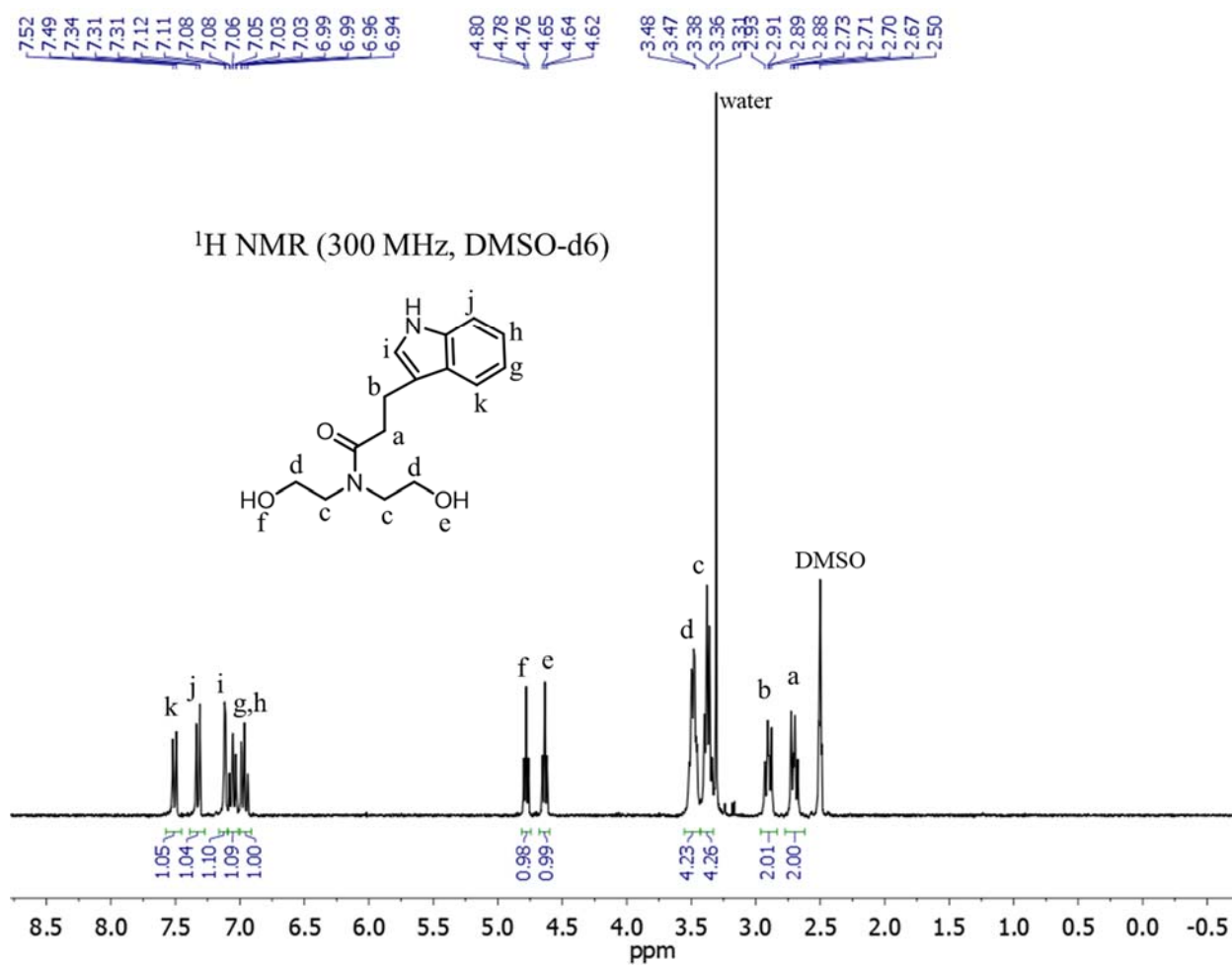


Figure S4. ¹H NMR spectrum of **P4** (in DMSO-d₆, 300 MHz).

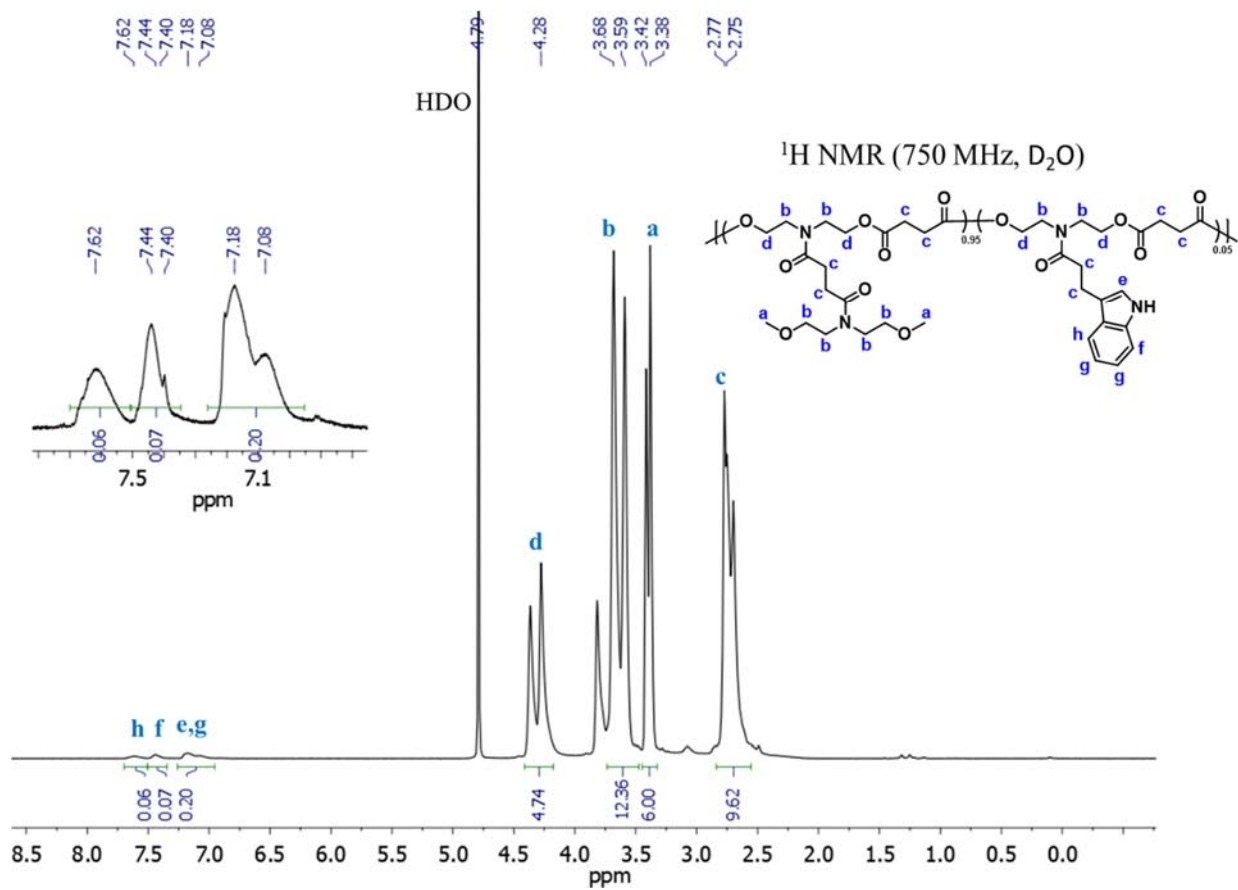


Figure S5. ¹H NMR spectrum of p(bMoTrp) (in D₂O, 750 MHz).

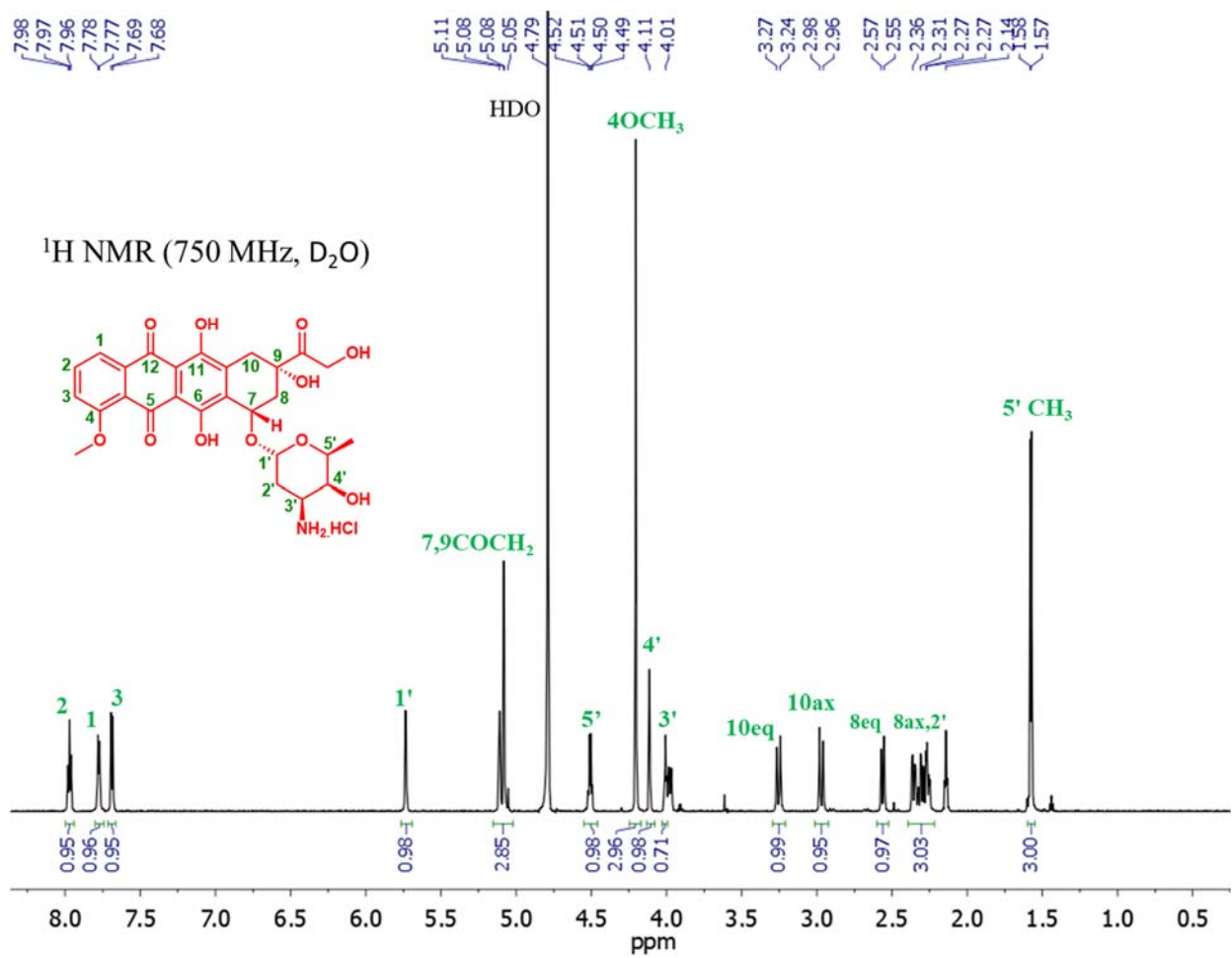


Figure S6. ¹H NMR spectrum of Doxorubicin (in D₂O, 750 MHz).

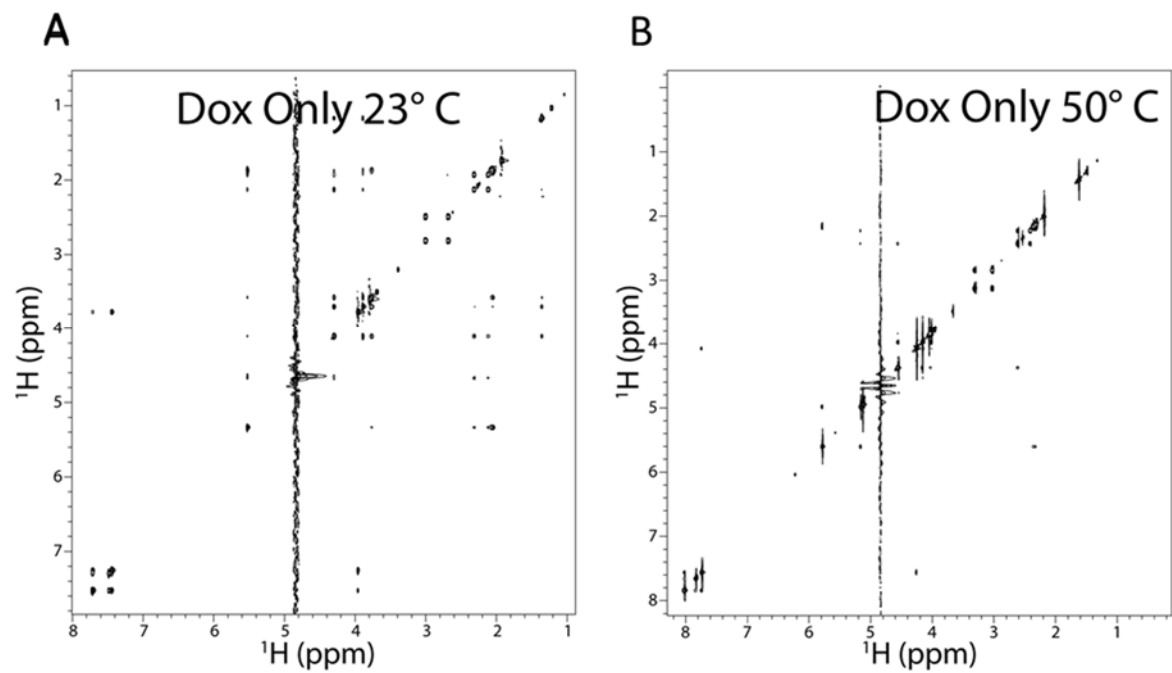


Figure S7. ^1H - ^1H NOESY spectra of Dox at (A) 23 °C and (B) 50 °C. It is clear that there are more cross-peaks present at 23 °C than at 50 °C.