Electronic Supplementary Material (ESI) for RSC Advances.

Supplementary data

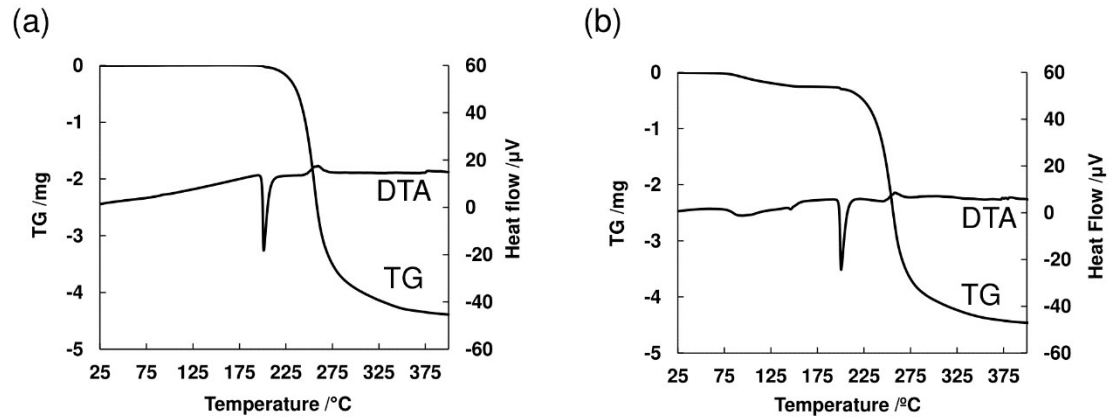

Fig.S1 The thermogravimetric (TG) analysis and differential thermal analysis (DTA) of PX-AH (a) and yellow solid precipitate (b). In (b), about 5.01% of mass loss was observed around 100 °C.

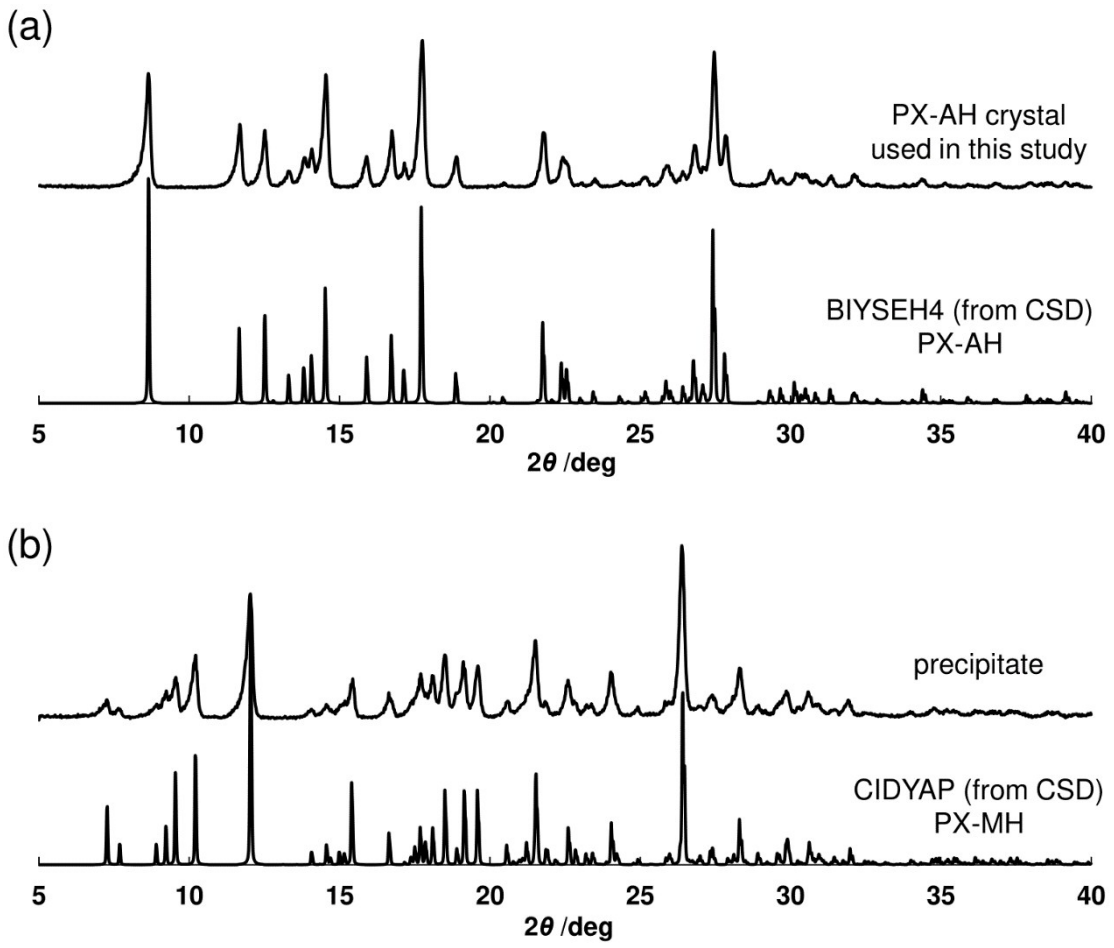

Fig. S2 The powder X-ray diffraction patterns of PX-AH (a) and yellow solid precipitate obtained from the dissolution study (b). The patterns of the PX-AH used in this study and the precipitate were compared to that of the PX-AH and PX-MH structure with a reference code of BIYSEH4 and CIDYAP indexed in the Cambridge Structural Database (CSD).

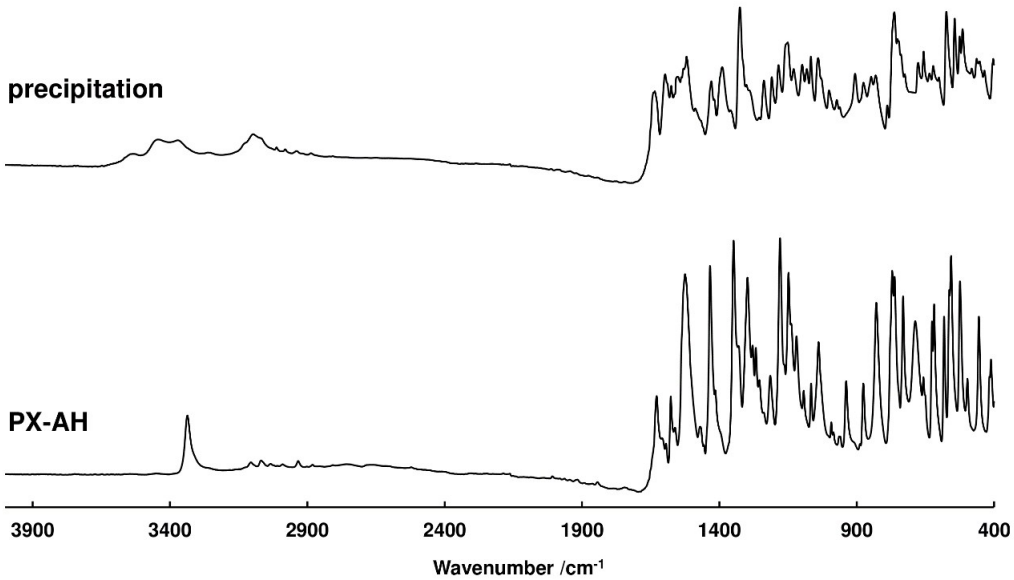

Fig.S3 The ATR-FTIR spectra of PX-AH (a) and yellow solid precipitate (b) obtained from the dissolution study of PX-AH in the absence of LAs.

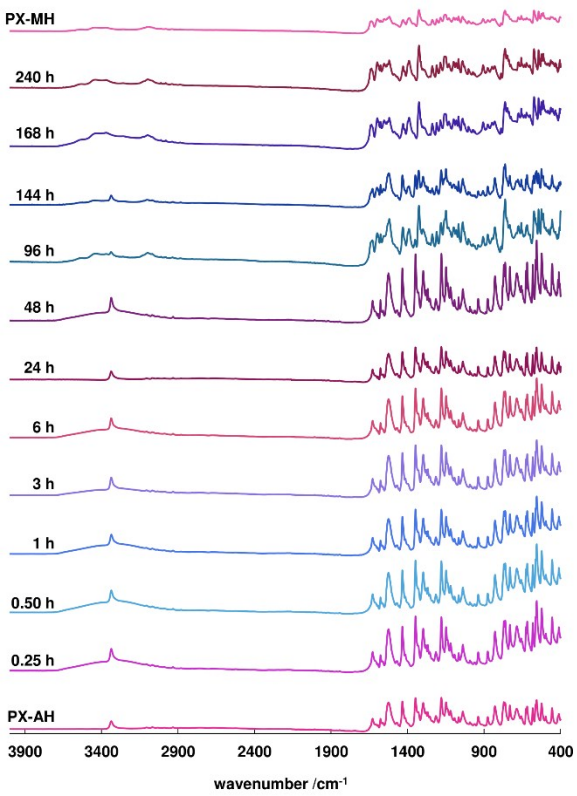

Fig.S4 The ATR-FTIR spectra of the solid phase of the samples when the dissolution study of PX-AH in 5 mM OXY solution was conducted in section 3.1.2.

Table S1. The values $[PX]_{24h}$, $\Delta[PX]_{24h}$, γ, and $\Delta\gamma$ of for each LAs.

	$[PX]_{24h}$	$\Delta[PX]_{24h}$	γ	$\Delta\gamma$
control	1.32	0.00	71.24	0.00
5 mM OXY	0.73	-0.59	46.86	-24.38
5 mM TET	0.71	-0.60	46.05	-25.19
5 mM LID	1.33	0.02	62.88	-8.36
5 mM DIB	0.06	-1.25	32.04	-39.20

a: $[PX]_{24\ h}$ is the concentration of PX at 24h in buffer or 5 mM basic drug solutions

b: $\Delta[PX]_{24\ h} = [PX_{5\ mM\ basic\ drugs}]_{24\ h} - [PX_{control}]_{24\ h}$

c: Surface tension of 5 mM basic drug solutions. Control is the buffer solution without basic drugs.

d: $\Delta\gamma = \gamma_{5\ mM\ basic\ durg} - \gamma_{control}$

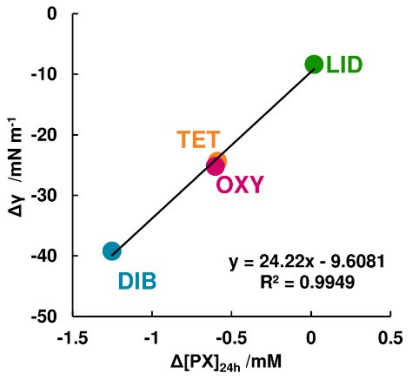

Fig. S5 $\Delta[PX]_{24\ h}$ and $\Delta\gamma$ of LAs. For $\Delta[PX]_{24\ h}$ and $\Delta\gamma$, the values in Table S1 of each LAs are used.

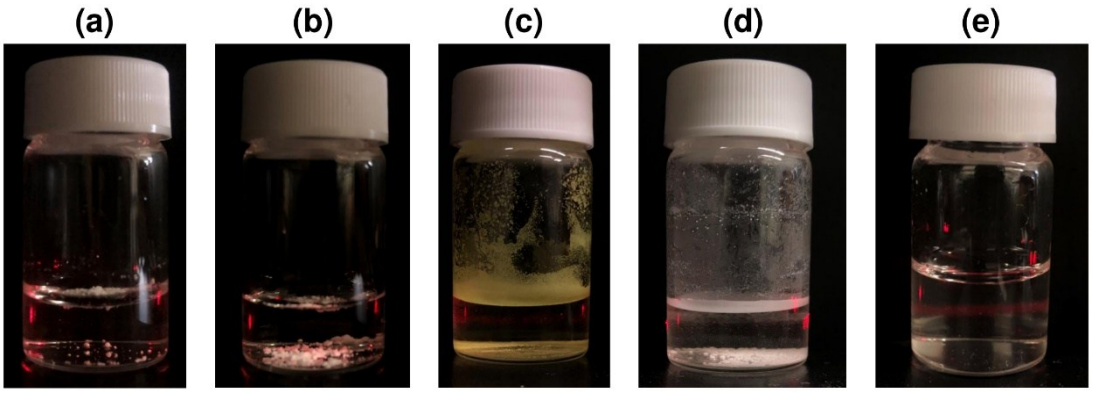

Fig. S6 The photos of the samples shined with light to observe the Tyndall effect. (a) PX-AH in buffer (before stirring), (b) PX-AH in 5 mM OXY solution (before stirring), (c) PX-AH in buffer (after stirring 6 h), (d) PX-AH in 5 mM OXY (after stirring 6 h) and (e) hydrogel of agarose (before stirring). The Tyndall effect only showed in (e).

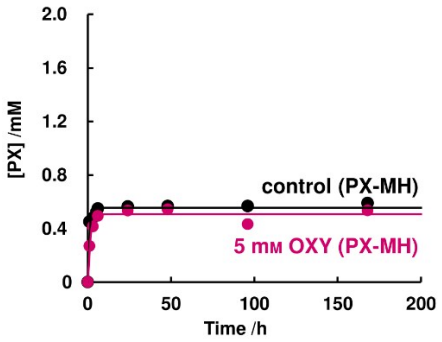

Fig. S7 The dissolution behavior of PX-MH in the absence and presence of OXY.

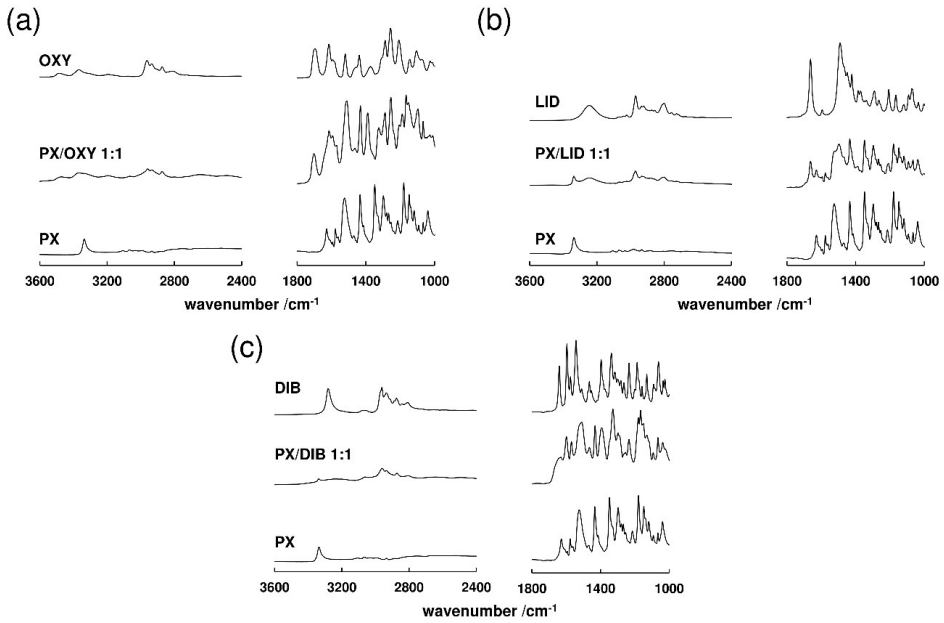

Fig. S8 The ATR-FTIR spectra of PX/OXY (a), PX/LID (b), and PX/DIB (c) mixtures in the molar ration of 1:1.

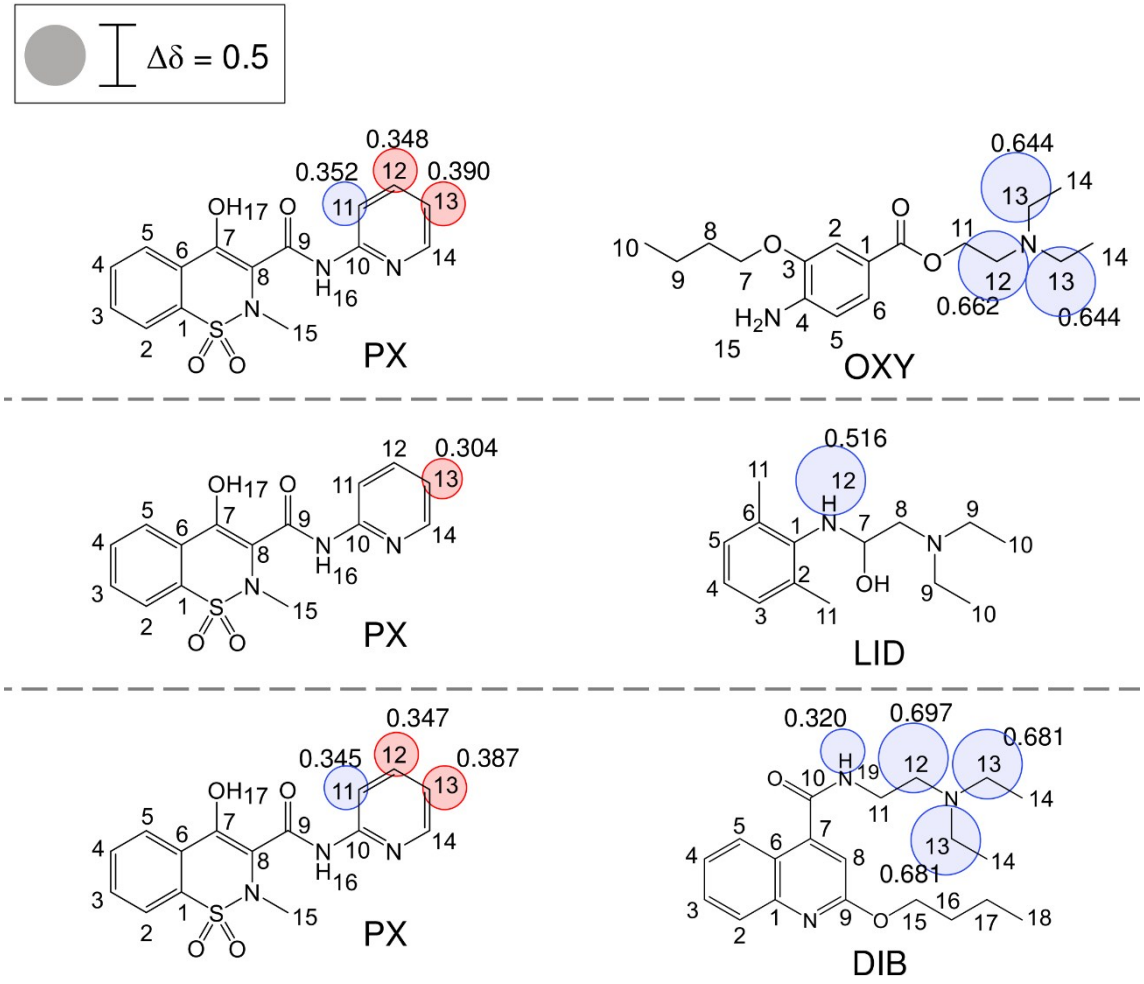

Fig. S9 The results of ^{1}H-NMR analysis of PX/OXY, PX/LID, and PX/DIB mixtures in DMSO-d_6. The size of the circle shows how much the chemical shift shifted (Δδ) to lower (red) or higher (blue) magnetic field due to mixing PX and each LAs. The value written near each circle is the value of Δδ.