

Supporting Information

Efficient and Reversible Absorption of Low Pressure NH₃ by Functional Type V Deep Eutectic Solvents Based on Phenol and Hydroxypyridine

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The identification of present mixtures as DESs.

The melting points of 3-HP/PhOH (1:1.5, 1:2, 1:3, 1:5), 3-HP/TMP (1:5), 3-HP/MC (1:5), and PhOH and 2-HP/PhOH (1:5) were determined and presented in the corresponding solid-liquid equilibrium (SLE) as follows according to the literature methods.^{1,2} The red lines were obtained using the melting points and $\Delta_{\text{fus}}H$ (the enthalpy of fusion) of the two pure compounds. As can be seen, the melting points of prepared mixtures were far lower than the ideal eutectic point presented as $T_{E, \text{ideal}}$. Then, present mixtures can be named as real DESs according to the recommended definition.^{1,2}

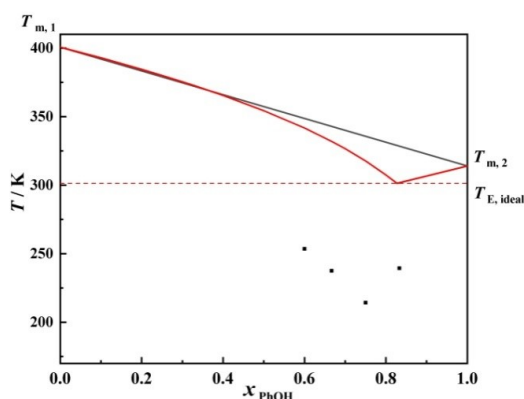


Fig.S1 Schematic representation of the comparison of the SLE of 3-HP/PhOH

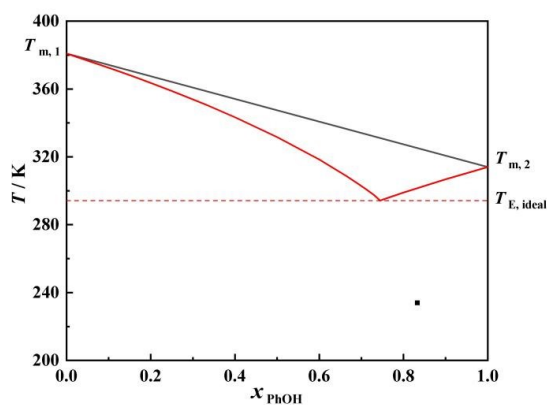


Fig.S2 Schematic representation of the comparison of the SLE of 2-HP/PhOH (1:5)

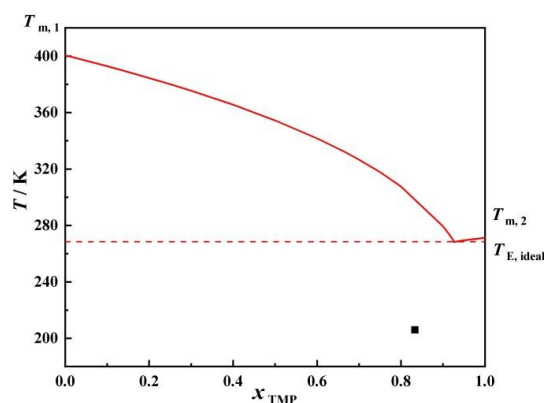


Fig.S3 Schematic representation of the comparison of the SLE of 3-HP/TMP (1:5)

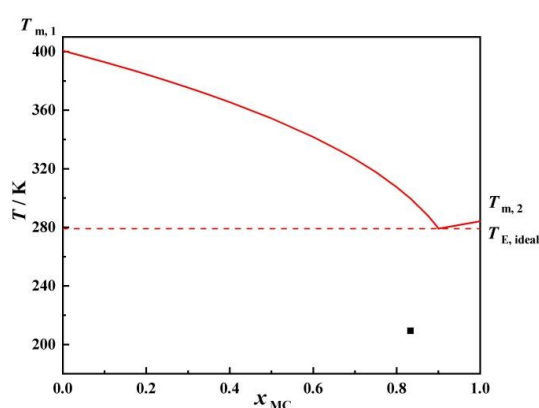


Fig.S4 Schematic representation of the comparison of the SLE of 3-HP/MC (1:5)

Table S1. The melting point and fusion enthalpy of pure compounds.

Coumpounds	T_m (K)	Ref.	$\Delta_{\text{fus}}H$ (kJ/mol)	Ref.
MC	284.15	3	10.67	8
PhOH	314.07	4	11.51	8
3-HP	400.15	5	17.70	DSC determination
2-HP	380.65	6	14.78	DSC determination
TMP	271.35	7	15.54	9

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