

A simple and cost effective extractive desulfurization process novel deep eutectic solvents

Xin Wang ^a, Wei Jiang ^b, Wenshuai Zhu ^{*a}, Hongping Li ^a, ShengYin ^a, Yonghui

Chang ^{a,c}, Huaming Li ^{*b}

^aSchool of Chemistry and Chemical Engineering, Jiangsu University, Zhenjiang

212013, P. R. China

^bInstitute for Energy Research, Jiangsu University, 301 Xuefu Road, Zhenjiang

212013, P. R. China

^cSchool of Chemistry and Chemical Engineering, Hainan Normal University, Haikou

571158, P. R. China

**Corresponding author: Tel.:+86-511-88791800; Fax: +86-511-88791708; E-mail
address: zhuws@ujs.edu.cn; lihm@ujs.edu.cn*

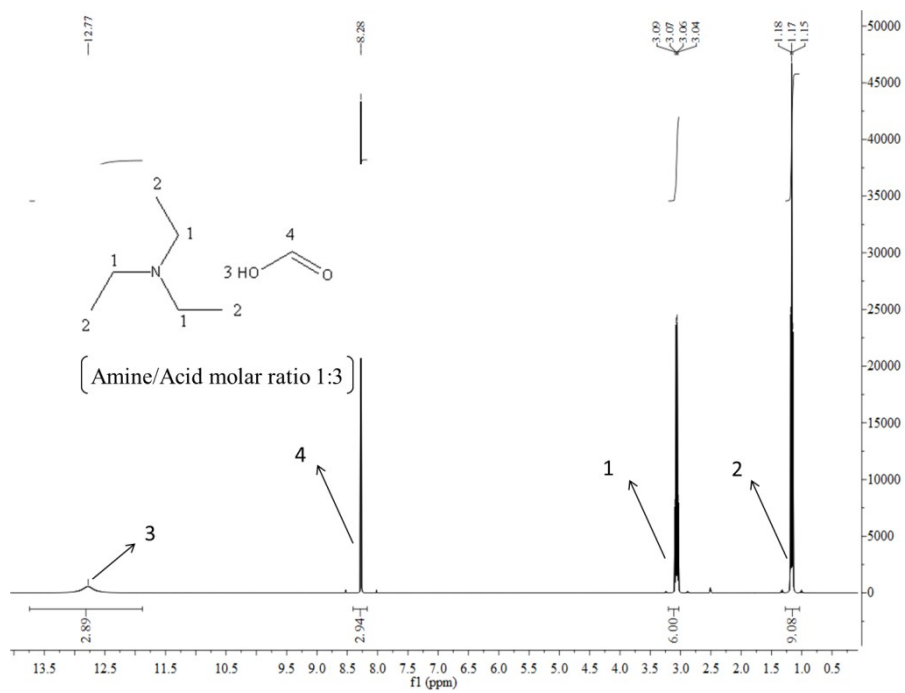


Figure S1. ^1H NMR of [TEtA][Fo]

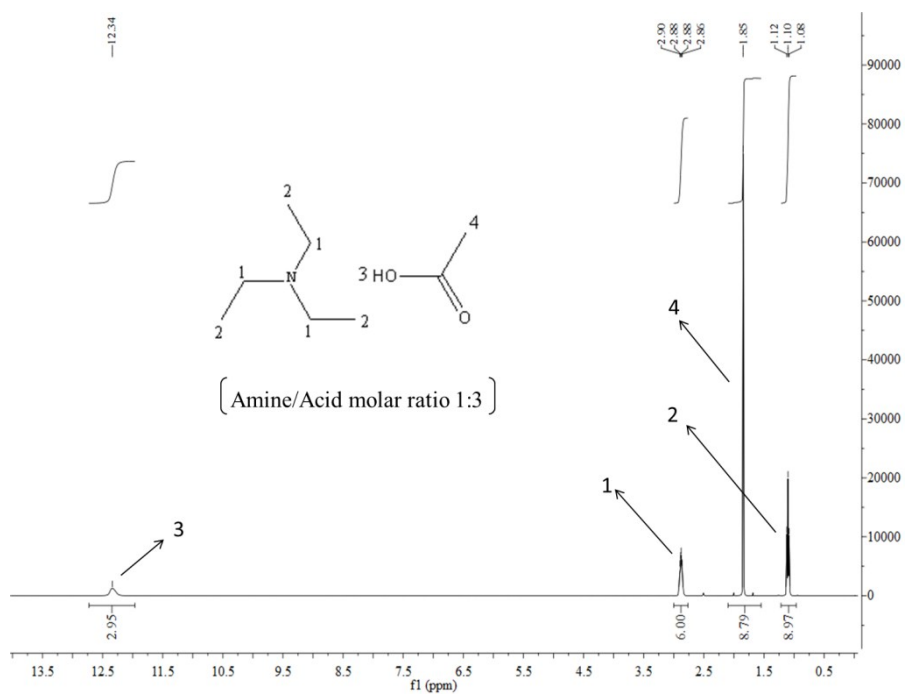


Figure S2. ^1H NMR of [TEtA][Ac]

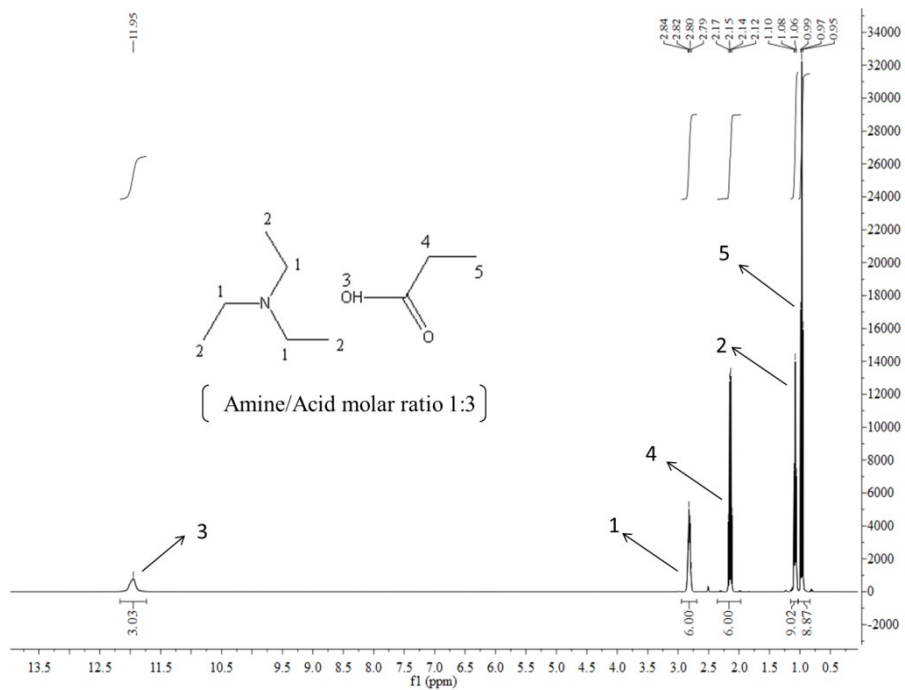


Figure S3. ¹H NMR of [TEtA][Pr]

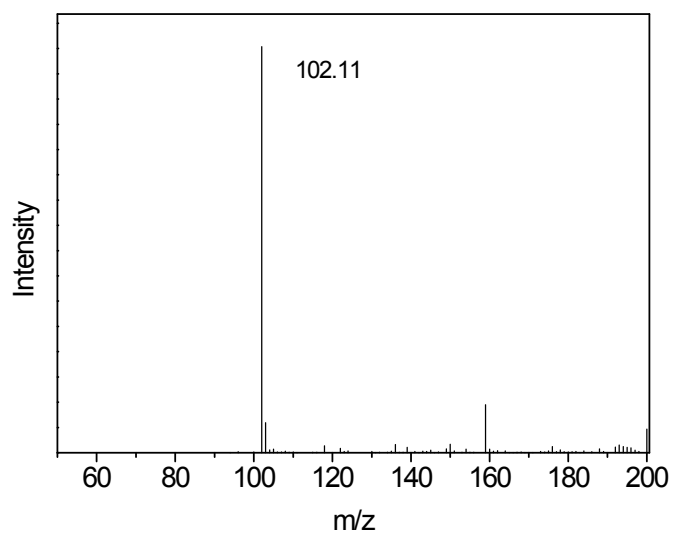


Figure S4. Positive ESI-MS of [TEtA][Fo]

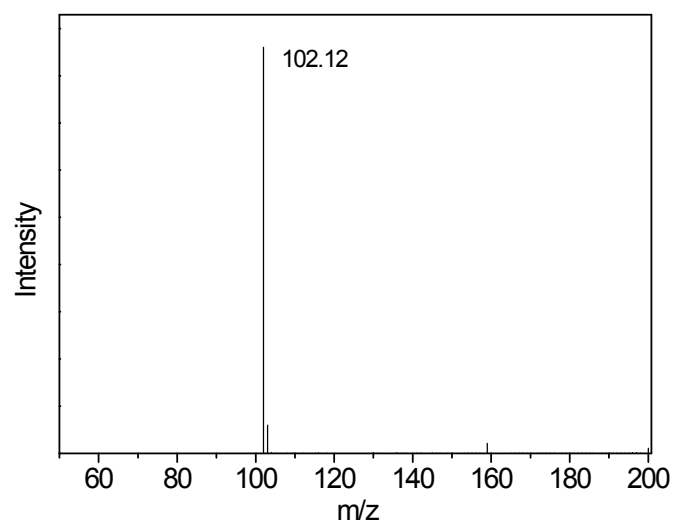


Figure S5. Positive ESI-MS of [TEtA][Ac]

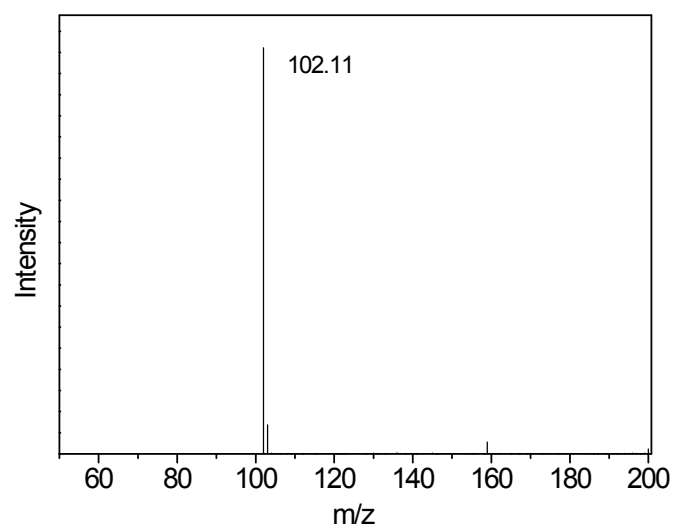


Figure S6. Positive ESI-MS of [TEtA][Pr]

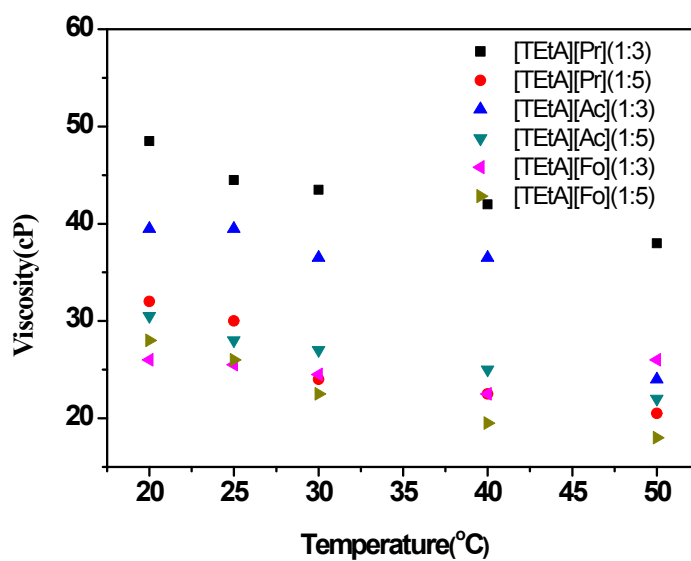


Figure S7. The viscosities of the DESs

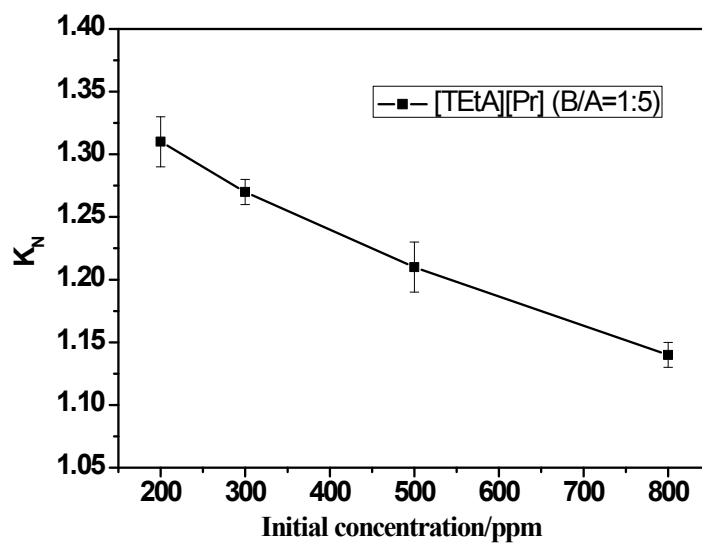


Figure S8. Effect of the initial sulfur concentration on sulfur removal.

Experimental conditions: DES= 1.75 g, model oil= 5 mL, T= 30°C, t= 10 min.

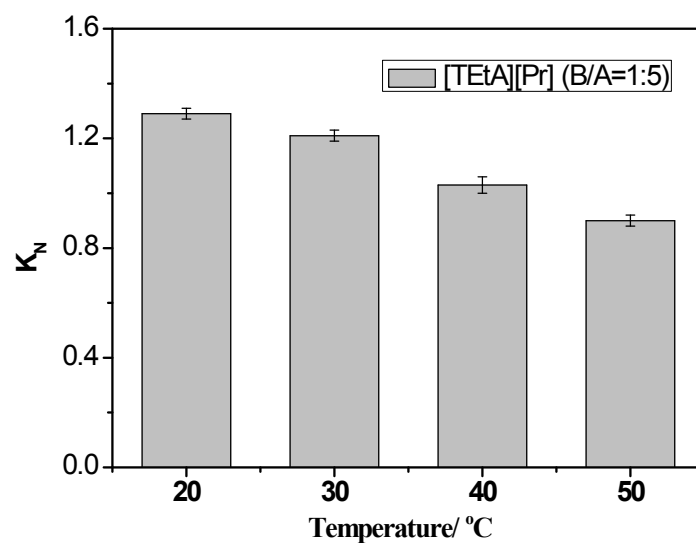


Figure S9. Effect of temperature on sulfur removal. Experimental conditions:

DES= 1.75 g, model oil (DBT)= 5 mL, $t= 10$ min.

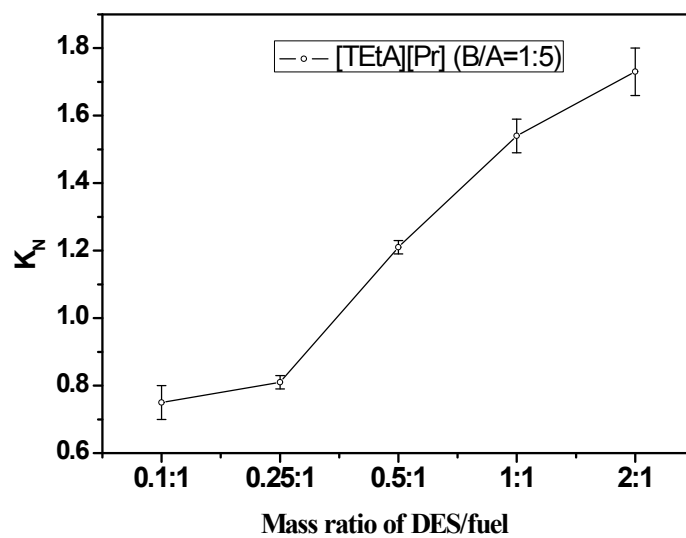


Figure S10. Effect of the amount of DES on sulfur removal.

Experimental conditions: model oil (DBT)= 5 mL, $T= 30^\circ\text{C}$, $t= 10$ min.

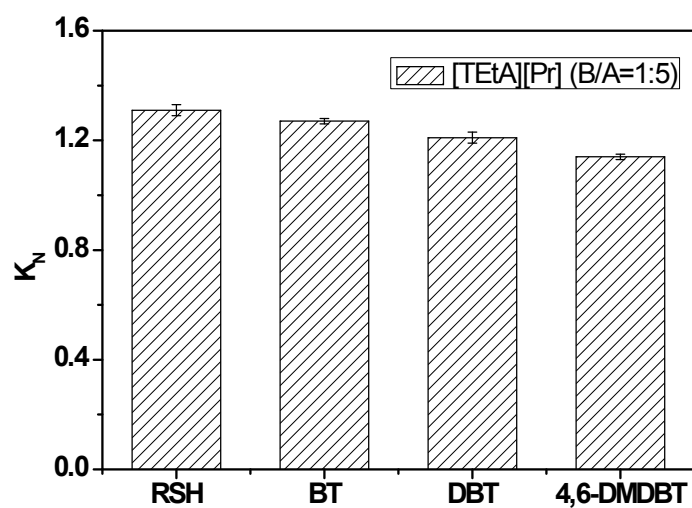


Figure S11. Investigation of different sulfur compounds.

Experimental conditions: DES= 1.75 g, model oil= 5 mL, T= 30°C, t= 10 min.