

**Supplementary data for:**

**Mesoporous Polymeric Ionic Liquid via Confined Polymerization for Laccase  
Immobilization towards Efficient Degradation of Phenolic Pollutants**

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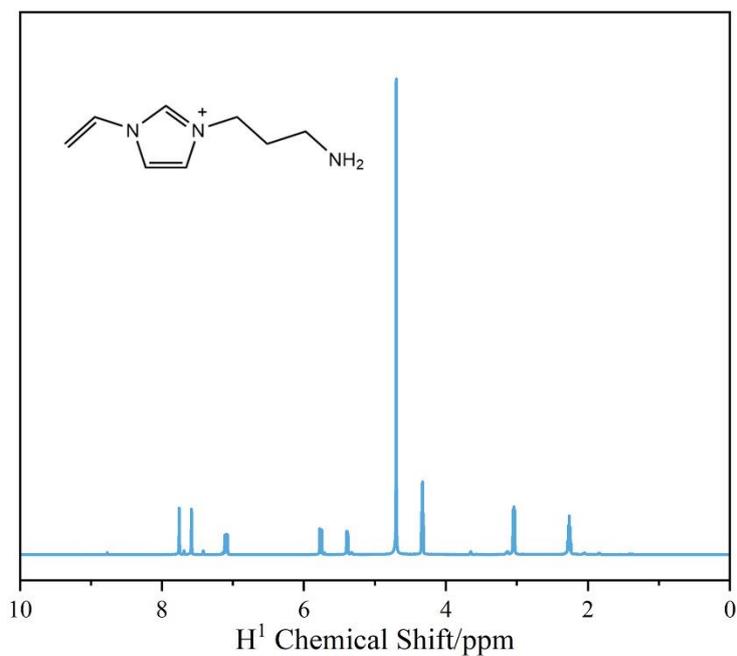
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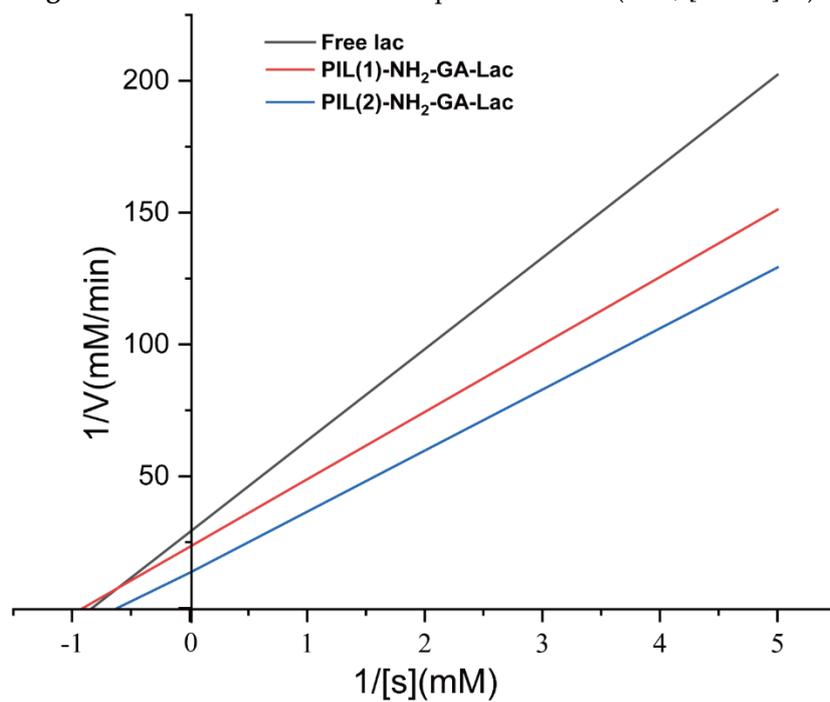
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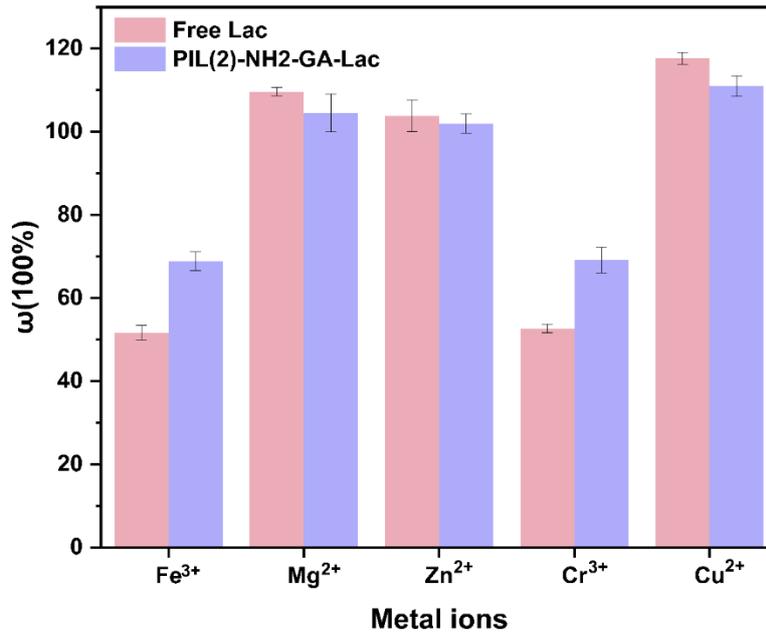
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**Figure S1.** The  $^1\text{H}$  NMR of ionic liquids monomer(ILM, [AVIM]Br).



**Figure S2.** Lineweaver-Burk plots of free laccase and immobilized laccase.



**Figure S3.** Effect of metal ions on laccase activity.

**Table S1.** Different support enzyme loading performance and phenol compounds removal rate.

Carrier	Enzyme loading (mg/g)	Storage stability (days, Relative activity)	Cycling stability (Times, Relative activity)	Phenolic compound, removal	Ref.
Cu (II)-chelated chitosan nanoparticles	66	/	8, 50%	Phenol, 87%	[60]
chitosan-clay	75%	42 d, 55%	10, 75%	Phenol, 80%	[24]
Silica	30	/	5, 61%	Catechol, 95%	[13]
Chitosan/poly (vinyl alcohol)	853	10 d, 60%	7, 54%	2,4-DCP, 87.6%	[21]
magnetic nanoparticles	85.8%	30 d, ~80%	6, 83%	Phenol, 86.1%	[36]
PIL-NH <sub>2</sub>	181	15 d, 84%	10, ~80%	2,4-DCP, 90%	This work