

Supporting Information

Novel Schiff base-functionalized metal-organic frameworks nanoparticles for dispersive solid phase extraction of copper ions from vegetable and water samples

Mohammadreza Mohammadi Nilash, Alireza Hashemzadeh, Ali Reza Fakhari*, Mostafa M.
Amini

Faculty of Chemistry, Shahid Beheshti University, G.C., P.O. Box 1983963113, Tehran, I.R. Iran.

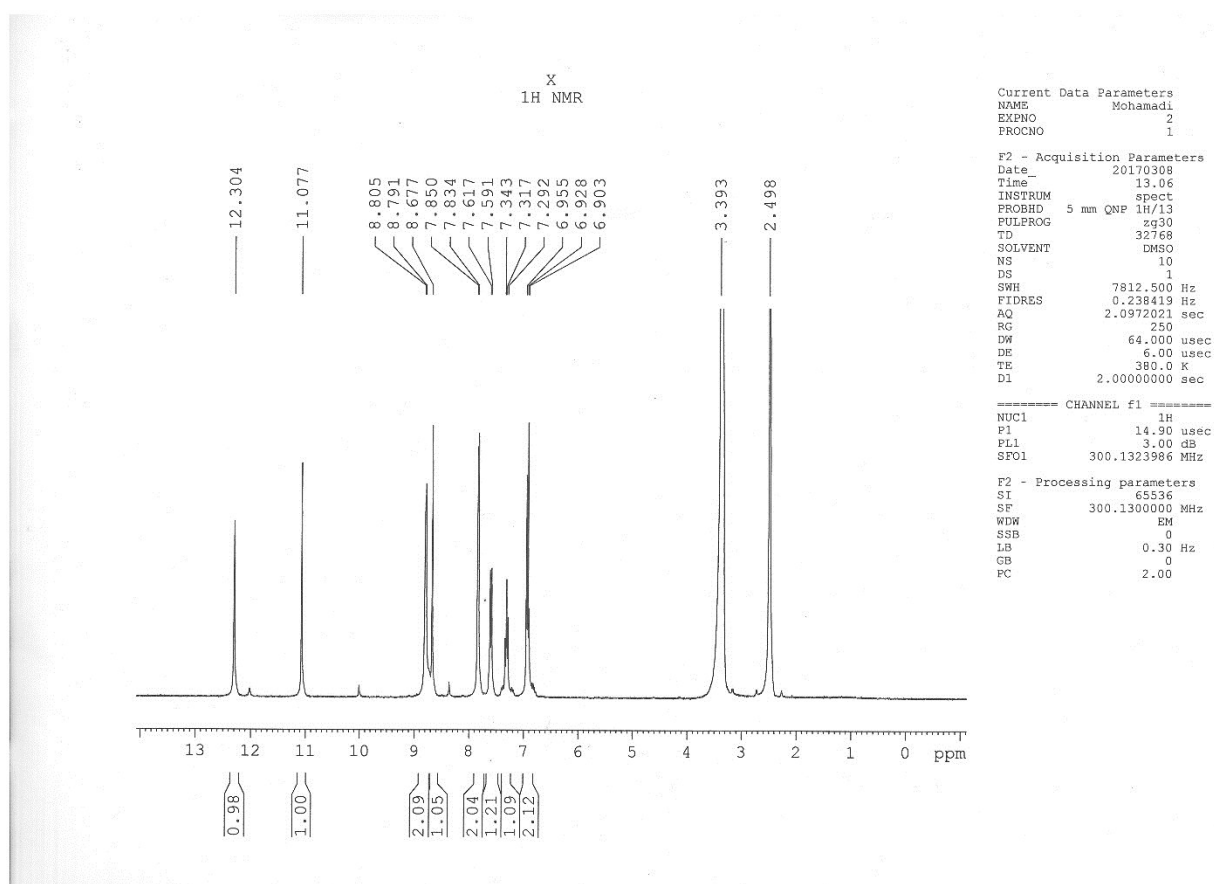
Correspondence: Professor Ali Reza Fakhari, Faculty of Chemistry, Shahid Beheshti University,

G. C., P.O. Box 1983963113, Evin, Tehran, Iran

Tel & Fax: +98 (21) 22431683

E-mail: a-zavareh@sbu.ac.ir

N'-(2-Hydroxybenzylidene)isonicotinohydrazide: Mp 241 (lit 240–242 °C). IR 3182, 2995, 1680, 1677, 1613, 1571. ¹HNMR (300 MHz, DMSO-d₆) δ = 6.92 (m, 2H), 7.31 (m, 1H), 7.60 (d, J = 7.80 Hz, 1H), 7.84 (d, J = 4.8 Hz, 2H), 8.67 (s, 1H), 8.80 (d, J = 4.2 Hz, 2H), 11.07 (s, 1H), 12.30 (s, 1H).



¹HNMR of Schiff base ligand

Table S1. Effect of elution conditions

Experiment number	[HCl] molL ⁻¹	V _{HCl} mL	Recovery%
1	0.5	2	41.3
2	1	2	92.5
3	1.5	2	92.8
4	2	2	93.3
5	1	1	54.3
6	1	1.5	68.7
7	1	2	92.3
8	1	3	94.3

Table S2. Effect of co-existing ions

Co-existing ions	Concentration ^a mg L ⁻¹	Recovery %
Na ⁺	2000	96.7
K ⁺	1000	96.1
Ca ²⁺	500	97.3
Mg ²⁺	500	95.1
Ba ²⁺	200	96.8
Mn ²⁺	10	95.3
Pb ²⁺	10	95.1
Fe ⁺²	50	80.2
Zn ⁺²	50	94.6
Co ²⁺	10	96.1
Cr ⁺³	10	97.4

The concentration of Cu(II) was 50 ng mL⁻¹

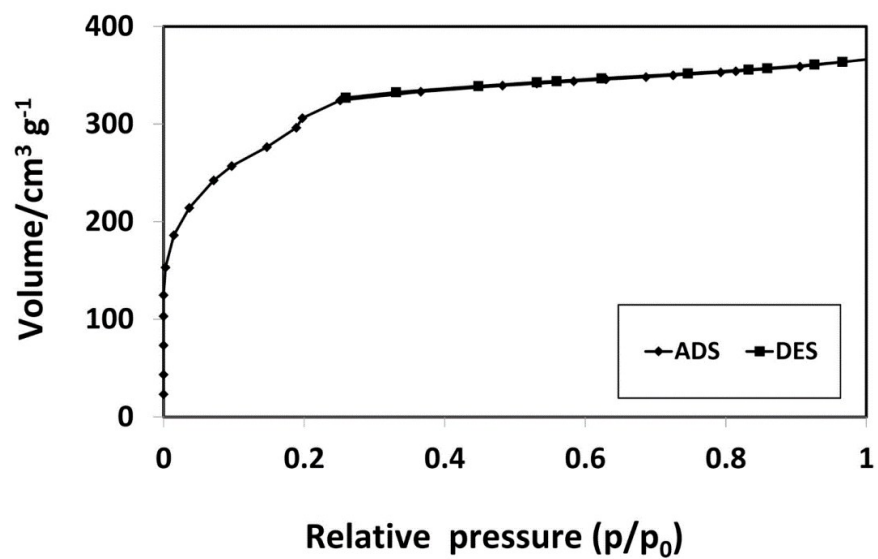


Fig. S1. The BET surface of the ligand@MIL-101(Cr).

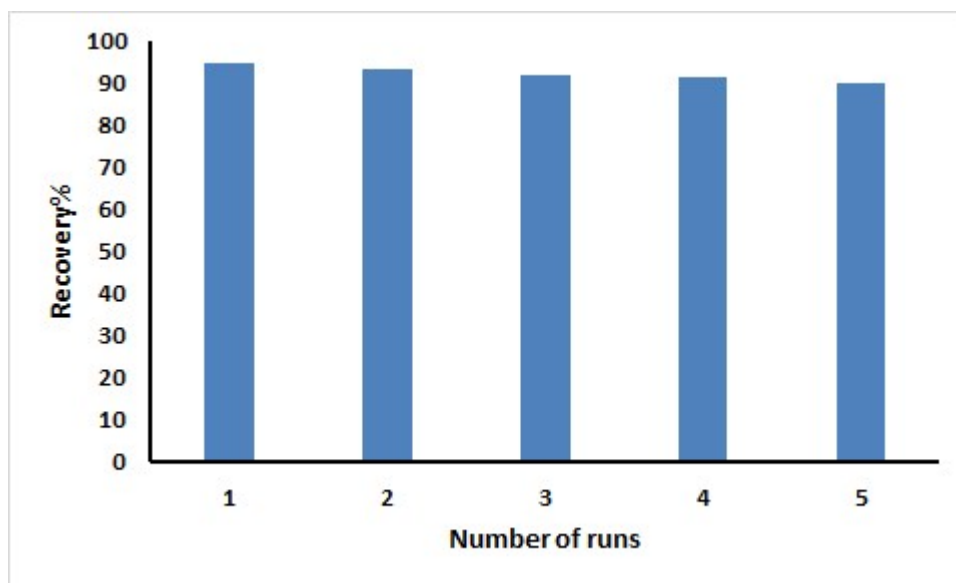


Fig. S2. Reusability of ligand@MIL-101(Cr) NPs in extraction of Cu(II).