

## Supplementary Data

# Ultrasound-assisted sorption of Pb(ii) on multi-walled carbon nanotube in presence of natural organic matter: an insight into main and interaction effects using modelling approaches of RSM and BRT

### 1- Maryam Foroughi

a- Department of Environmental Health, School of Health, Torbat Heydariyeh University of Medical Sciences, Torbat Heydariyeh, Iran

b- Health Sciences Research Center, Torbat Heydariyeh University of Medical Sciences, Torbat Heydariyeh, Iran.

### 2- Hassan Zolghadr Nasab

Department of Environmental Health Engineering & Research Centre for Health Sciences, School of Public Health, Hamadan University of Medical Sciences, Hamadan, Iran.

### 3- Reza Shokoohi\*

Department of Environmental Health Engineering & Research Centre for Health Sciences, School of Public Health, Hamadan University of Medical Sciences, Hamadan, Iran.

\*Corrospounding author.

Email: [reza.shokohi@umsha.ac.ir](mailto:reza.shokohi@umsha.ac.ir), [shokoohia@yahoo.com](mailto:shokoohia@yahoo.com).

Tel.: +98 38380026; Fax: +98 8138380509

### 4- Mohammad Hossein Ahmadi Azqhandi

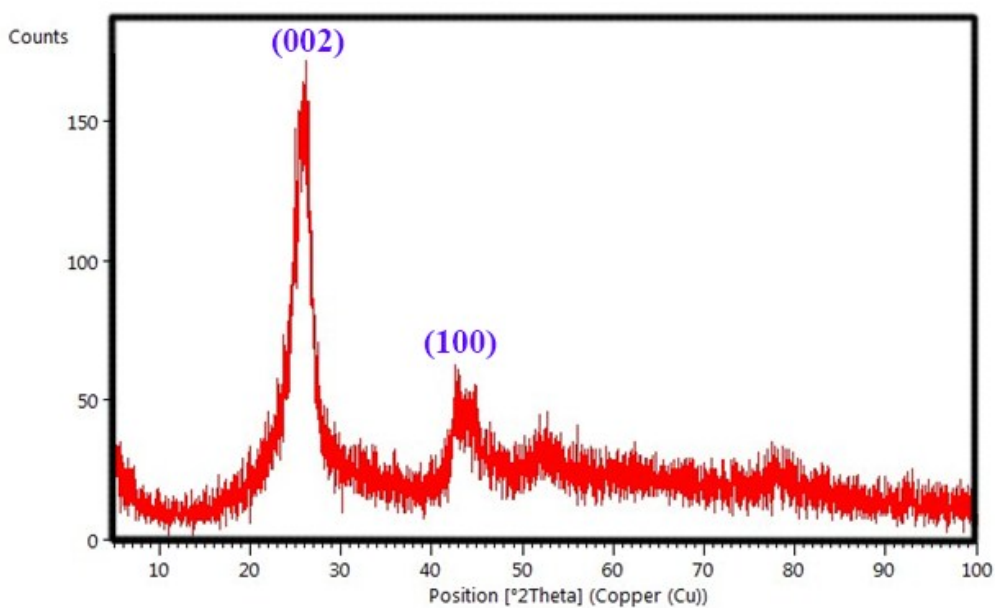
Applied Chemistry Department, Faculty of Gas and Petroleum (Gachsaran), Yasouj University, Gachsaran 75813-56001, Iran.

### 5- Azam Nadali

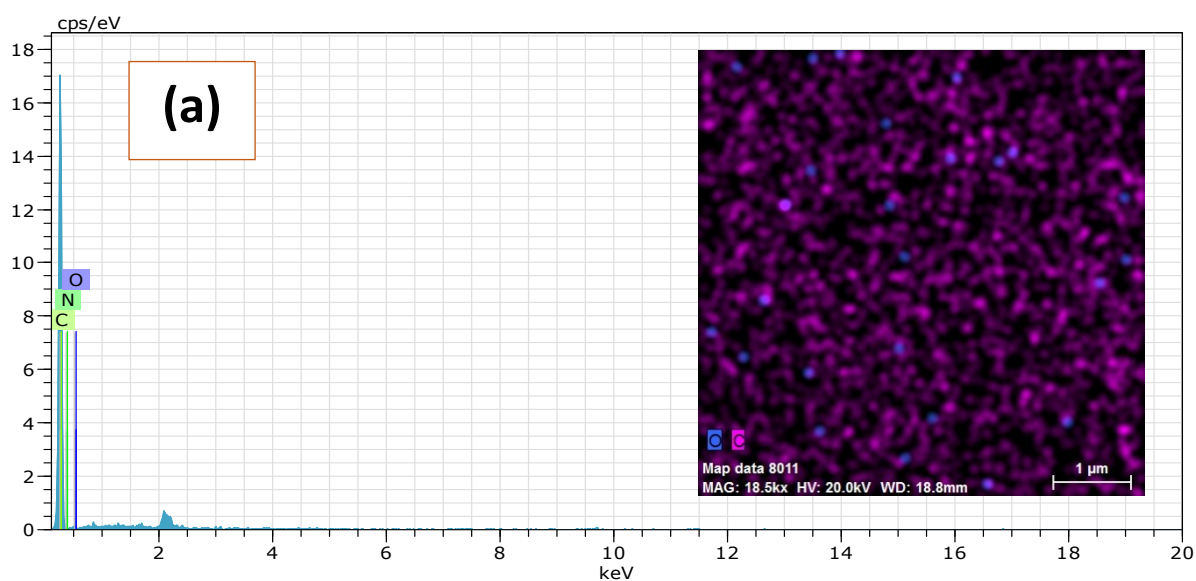
Department of Environmental Health Engineering & Research Centre for Health Sciences, School of Public Health, Hamadan University of Medical Sciences, Hamadan, Iran.

### 6- Ashraf Mazaheri

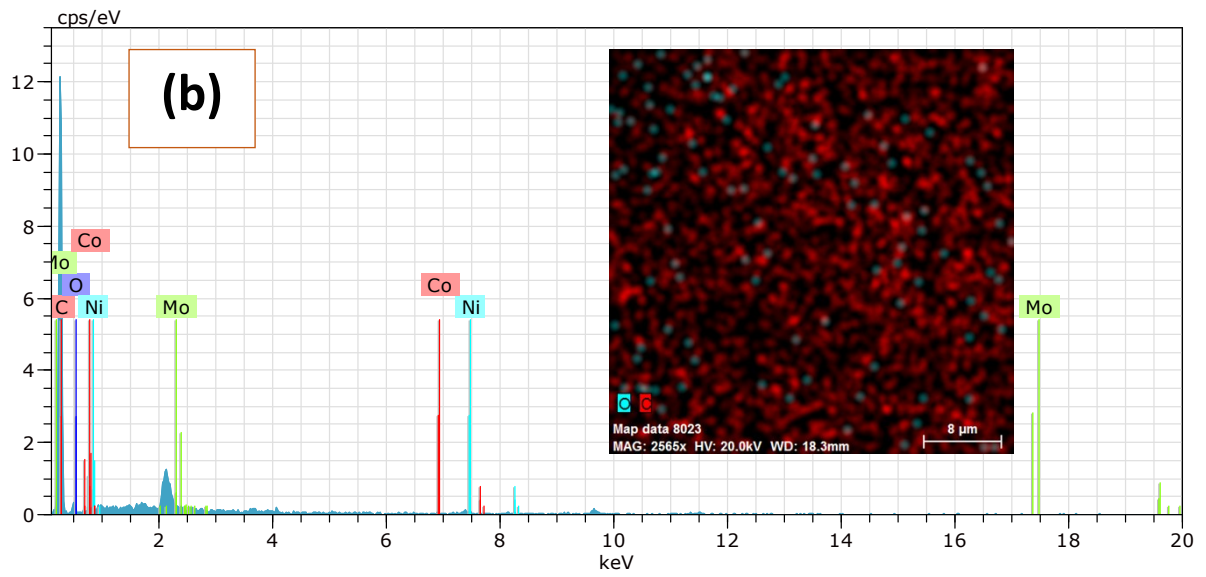
Department of Environmental Health Engineering & Research Centre for Health Sciences, School of Public Health, Hamadan University of Medical Sciences, Hamadan, Iran.



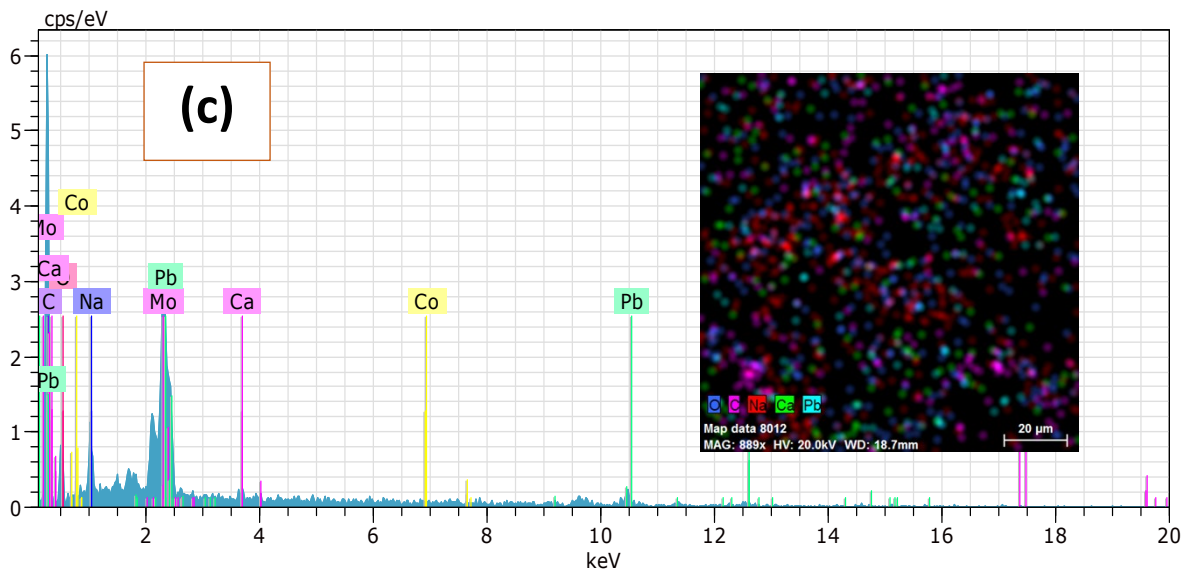
**Fig. S1.** XRD pattern for MWCNTs.



	El	AN Series un.	C norm.	C Atom.	C Error (1 Sigma)
		[wt.%]	[wt.%]	[at.%]	[wt.%]
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	C 6 K-series	92.23	92.23	93.57	14.71
	N 7 K-series	4.65	4.65	4.05	4.78
	O 8 K-series	3.12	3.12	2.38	2.46
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	Total:	100.00	100.00	100.00	



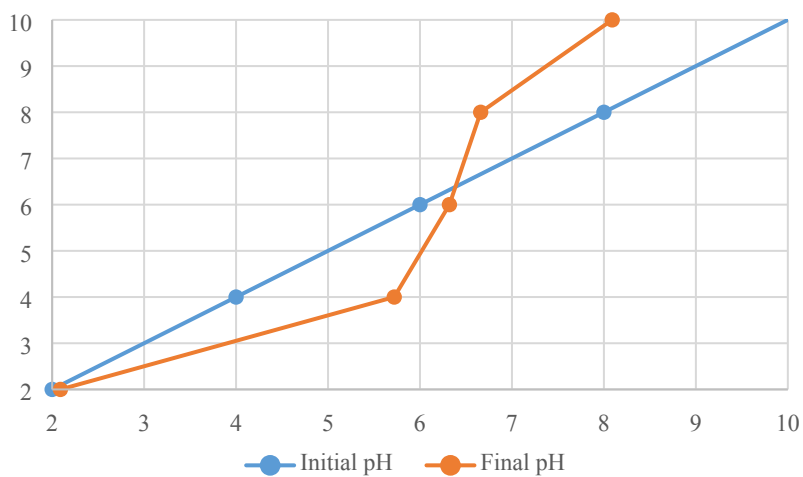
El	AN	Series	unn. C [wt.%]	norm. C [wt.%]	Atom. C [at.%]	Error (1 Sigma) [wt.%]
C	6	K-series	89.94	89.94	93.64	15.88
O	8	K-series	7.59	7.59	5.93	4.56
Mo	42	L-series	1.23	1.23	0.16	0.16
Ni	28	K-series	0.94	0.94	0.20	0.19
Co	27	K-series	0.30	0.30	0.06	0.12
Total:			100.00	100.00	100.00	



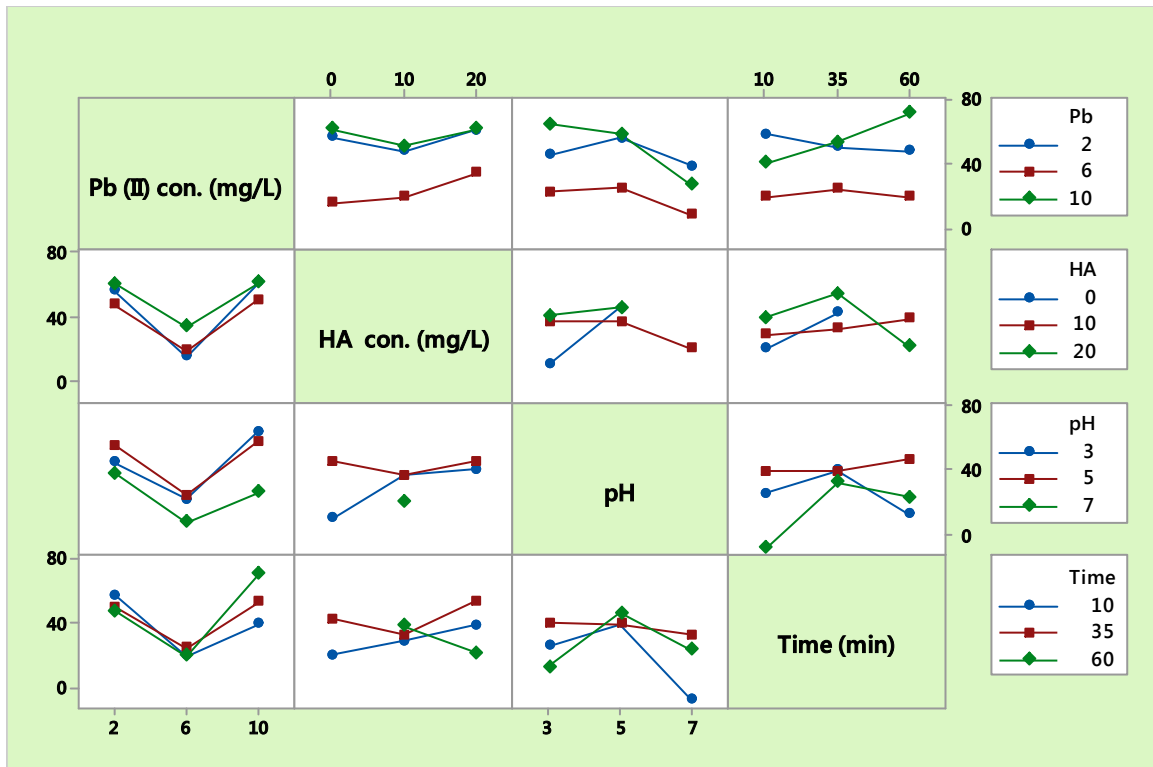
El	AN	Series	unn. C [wt.%]	norm. C [wt.%]	Atom. C [at.%]	Error (1 Sigma) [wt.%]
C	6	K-series	40.94	55.88	79.59	8.14
Pb	82	L-series	11.61	15.85	1.31	1.19

O	8	K-series	10.07	13.74	14.70	3.58
Mo	42	L-series	7.78	10.62	1.89	0.42
Na	11	K-series	2.05	2.80	2.08	0.25
Ca	20	K-series	0.55	0.75	0.32	0.10
Co	27	K-series	0.26	0.36	0.10	0.10
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Total:			73.27	100.00	100.00	

**Fig. S2.** EDX elemental analysis of MWCNTs, MWCNTs-HA, and MWCNTs-HA-Pb along with their corresponding chemical composition and elemental mapping.



**Fig. S3.** Point of zero charge ( $\text{pH}_{\text{pzc}}$ ) of MWCNTs



**Fig. S4.** Interaction plot for the removal efficiency