

1 Article

2 **Reductive dechlorination of chloroacetamides with**
3 **NaBH₄ catalyzed by zero valent iron, ZVI, nanoparticles**
4 **in ORMOSIL matrices prepared via the sol-gel route**

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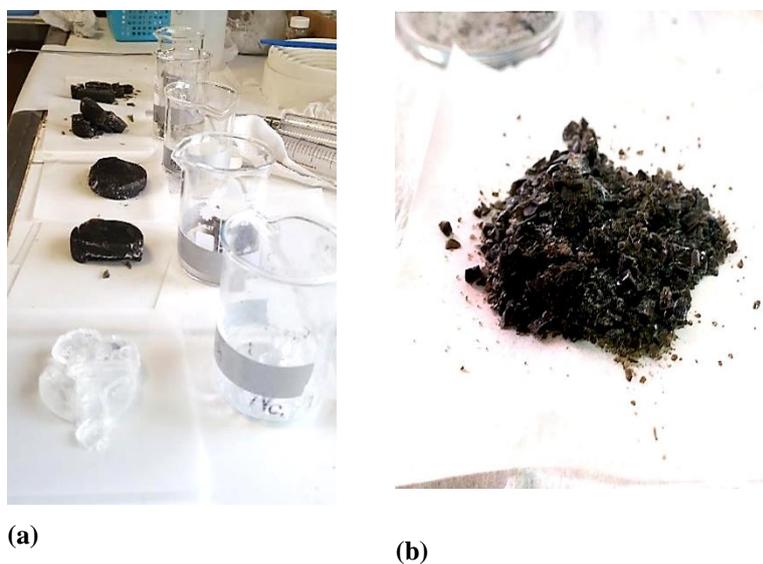
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31 **5. Supplementary Materials:**

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33 **Figure S1. (a) Raw wet ORMOSIL gel, (b) Crushed ZVI@ORMOSIL gel**

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35 Table S 1 is a summary of survey scan peaks and their integrated areas following the surface
36 xps analysis of 1% ZVI@ORMOSIL

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38 **Table S 1: XPS surface analysis elemental composition of 1% ZVI@ORMOSIL**

Name	Peak (BE)	FWHM	Area	At%
Fe 2p	714.40	4.53	53140	0.2
O 1s	535.16	3.30	4168746	57.6
C 1s	287.34	3.56	336692	11.2
Si 2p	106.02	3.34	933002	31.0

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Pattern: PDF 04-007-9753 Radiation: 1.54060 Quality: Star (*)

Formula		Fe		d	2 θ	I fix	h	k	l
Name		Iron		2.02600	44.693	999	1	1	0
Name (mineral)		Iron, syn		1.43260	65.053	126	2	0	0
Name (common)		\pm -Fe		1.16971	82.377	206	2	1	1
				1.01300	99.001	58	2	2	0
				0.90606	116.460	86	3	1	0
				0.82711	137.280	25	2	2	2
Lattice:		Cubic		Mol. weight = 55.85					
S.G.:		Im-3m (229)		Volume [CD] = 23.52					
				Dx = 7.88					
				Dm =					
				I/lcor = 11.580					
a =	2.86520	Z = 2							
a/b =	1.00000								
c/b =	1.00000								
LPF Collection Code: 1503158									
Sample Preparation: STARTING MATERIALS:Fe. Sample crystals grown by chemical transport method, transport agent iodine									
Temperature of Data Collection: 297 K									
Unit Cell Data Source: Single Crystal									
Radiation:		CuK \pm 1		Filter: Not specified					
Wavelength:		1.54060		d-spacing:					
SS/FOM:		999.9 (0.0001,6)							

48 **Figure S2. Fe⁰ phases powder diffraction file**

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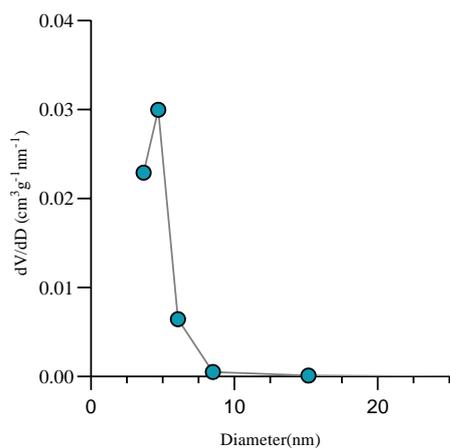
Pattern: PDF 04-005-4319 Radiation: 1.54060 Quality: Star (*)

Formula		Fe ₃ O ₄		d	2θ	I fix	h	k	l
Name		Iron Oxide		4.84732	18.288	84	1	1	1
Name (mineral)		Magnetite, syn		2.96836	30.081	286	2	2	0
Name (common)		iron diiron(III) oxide		2.53143	35.431	1000	3	1	1
				2.42366	37.063	78	2	2	2
				2.09895	43.061	206	4	0	0
				1.92613	47.146	6	3	3	1
Lattice:		Cubic		1.71379	53.419	88	4	2	2
S.G.:		Fd-3m (227)		1.61577	56.945	282	5	1	1
				1.48418	62.531	377	4	4	0
				1.41915	65.747	8	5	3	1
				1.39930	66.801	1	4	4	2
				1.32749	70.939	29	6	2	0
				1.28035	73.974	72	5	3	3
				1.26571	74.975	31	6	2	2
				1.21183	78.936	22	4	4	4
				1.17565	81.871	4	7	1	1
				1.12194	86.720	30	6	4	2
				1.09304	89.616	105	7	3	1
				1.04947	94.444	39	8	0	0
				1.02571	97.353	1	7	3	3
				1.01814	98.326	1	6	4	4
				0.98945	102.248	14	8	2	2
				0.96946	105.228	57	7	5	1
				0.96306	106.230	12	6	6	2
				0.93868	110.294	23	8	4	0
				0.92156	113.412	2	9	1	1
				0.91606	114.467	1	8	4	2
				0.89499	118.785	7	6	6	4
				0.88012	122.142	42	9	3	1
				0.85689	128.039	89	8	4	4
				0.84381	131.813	1	9	3	3
				0.82328	138.667	19	10	2	0
				0.81165	143.263	56	9	5	1
				0.80789	144.908	13	10	2	2
ANX: A3X4									
LPF Collection Code: 541353									
Sample Preparation: STARTING MATERIALS:Fe ₂ O ₃ ,Fe									
Compound Preparation: heated at 1193 K for 4-7 d in evacuated silica tube. Sample annealed at 1073 K for 95 d									
Unit Cell Data Source: Powder Diffraction									
Radiation: CuKα1		Filter: Not specified							
Wavelength: 1.54060		d-spacing:							
SS/FOM: 999.9 (0.0001,30)									

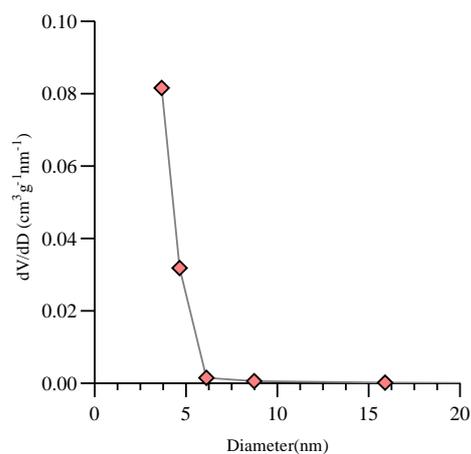
57 Figure S3. Fe₃O₄ phases powder diffraction file

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(a)



(b)

60 **Figure S4.** Y-axis dV/dD ($\text{cm}^3\text{g}^{-1}\text{nm}^{-1}$), X-axis Diameter (nm) (a) pore size distribution for Blank@Ormosil, (b) pore size
61 distribution for 1% ZVI@ORMOSIL



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