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MDPI

Supporting Information

Simultaneous Removal of Arsenic and Manganese from Synthetic Aqueous Solutions Using Polymer Gel Composites

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Table S1. FTIR spectroscopy peak analysis.

Wavelength	DMAPAAQ + FeOOH	DMAPAAQ + FeOOH + Mn	DMAPAAQ	DMAPAAQ + Mn	γ-FeOOH	γ-FeOOH + Mn	Group	Compound Class	Appearance
1209 1211							C-N stretching	amine	medium
1458							C-H bending	alkane	medium
1508 1541							N-O stretching	nitro compound	strong
1693							C=O stretching	primary amide	strong
1753							C=O stretching	carboxylic acid	strong
1764 1774							C=O stretching	vinyl/phenyl ester	strong
2139							C≡C Stretching	alkyne	weak
2347 2387							O=C=O stretching	carbon dioxide	strong
2954 2956							N-H stretching	amine salt	strong, broad
3047 3051							C-H stretching	alkane	medium
3234 3255 3273 3275 3294 3296							O-H stretching	alcohol	strong, broad

3311 3329 3331 3346 3348	N-H stretching	second-ary amine	medium
3365 3367 3369 3373 3385 3387 3390	N-H stretching	ali-phatic primary amine	medium
3404 3412 3415 3423 3433 3435 3442 3448 3456 3458 3464 3469 3473 3475 3481 3483 3489 3500 3504 3523 3535 3539 3547	N-H stretching	primary amine	medium
3618 3620 3641 3649 3651 3660 3668 3674	O-H stretching	alcohol	me-dium, sharp

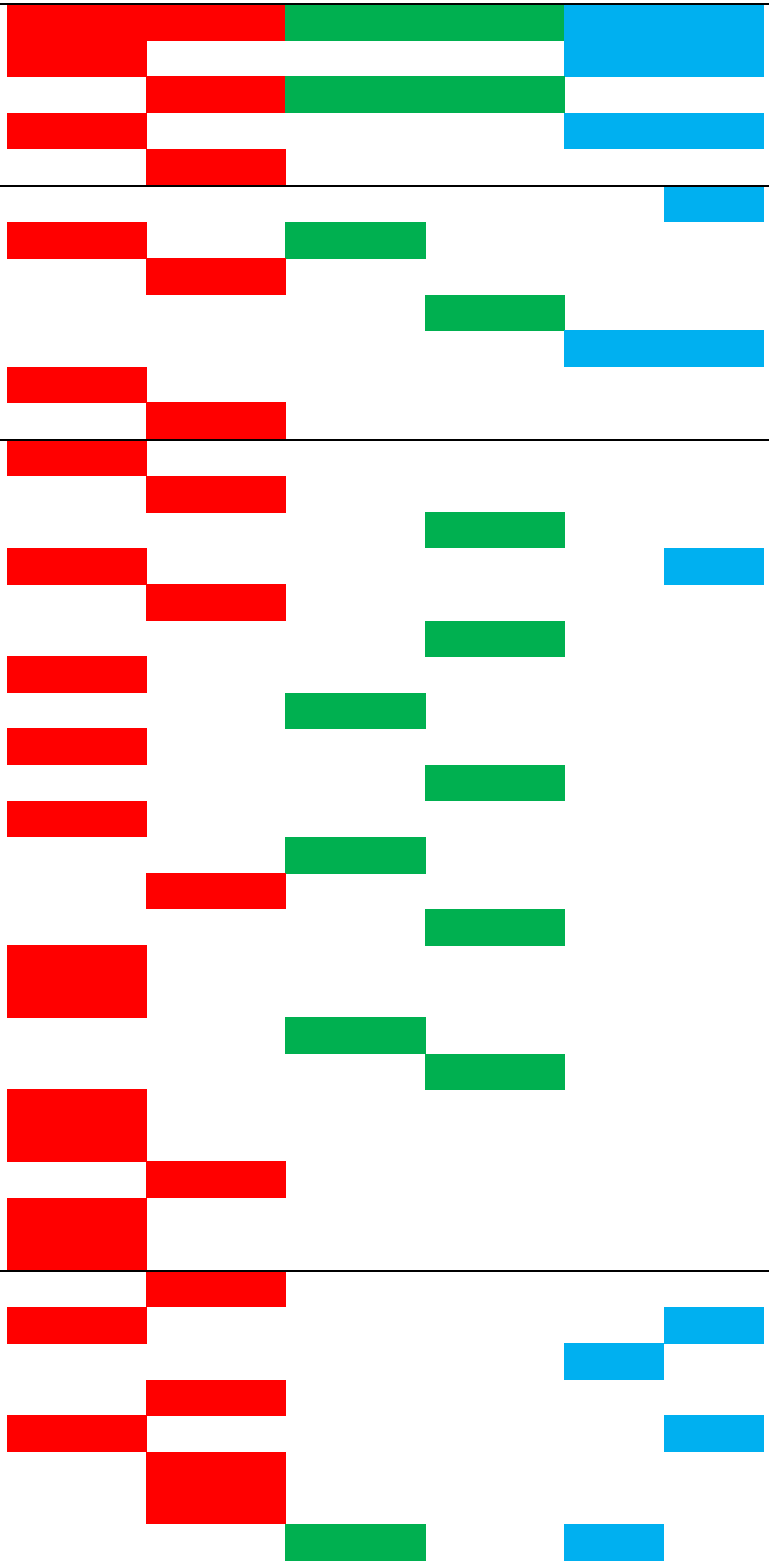

Table S2. Composition of gel composite.

	Chemical	Quantity (mol/m³)
Monomer	DMAPAAQ, DMAA	500
Crosslinker	MBAA	50
Accelerator	Sodium Sulfite	80
	Sodium Hydroxide (NaOH)	2100
Initiator	Ammonium peroxodisulfate (APS)	30
	Ferric Chloride ($FeCl_3$)	700

Table S3. Composition of gel.

.	Chemical	Quantity (mol/m³)
Monomer	DMAPAAQ, DMAA	1000
Crosslinker	MBAA	50
Accelerator	Sodium Sulfite	20
Initiator	Ammonium peroxodisulfate (APS)	5