

**Supplemental Information**

**Multifunctional silver coated e-33/iron oxide water filters:**

**Inhibition of biofilm growth and arsenic removal**

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Figure S1. Optical microscope images of (a) A, (b) B, (c) C, and (d) D samples.

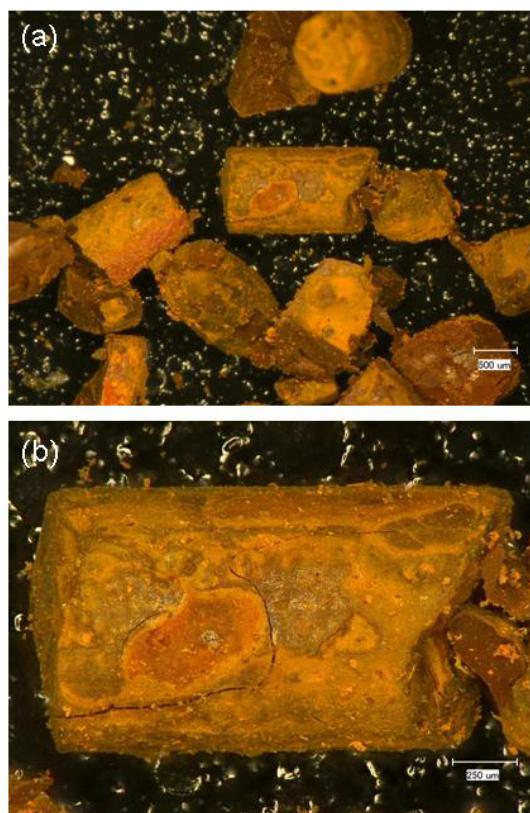


Figure S2. Optical microscope images of I sample: (a-b) E.

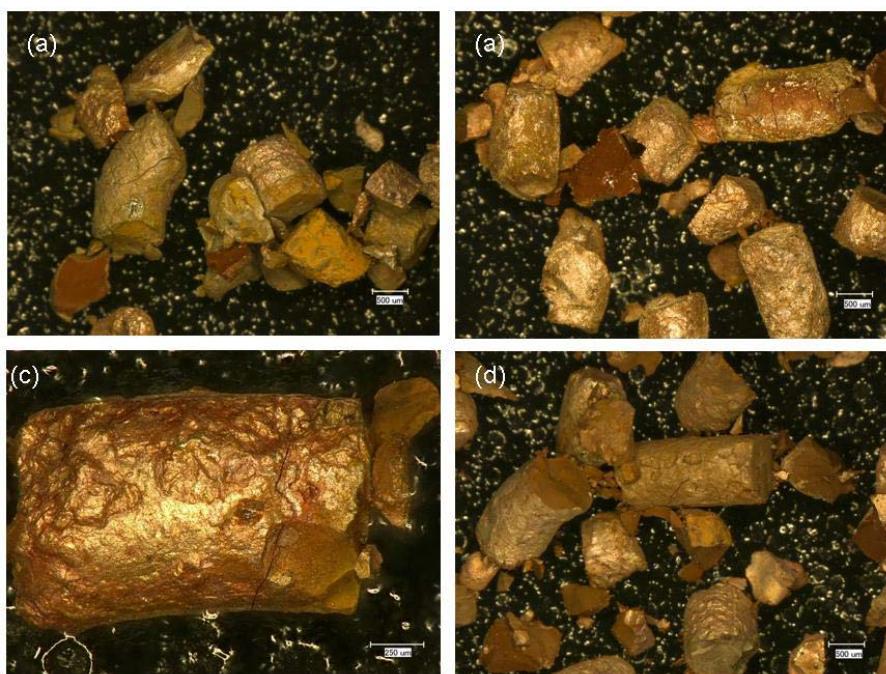


Figure S3. Optical microscope image of F-I: (a) F, (b) G, (c) H and (d) I samples.

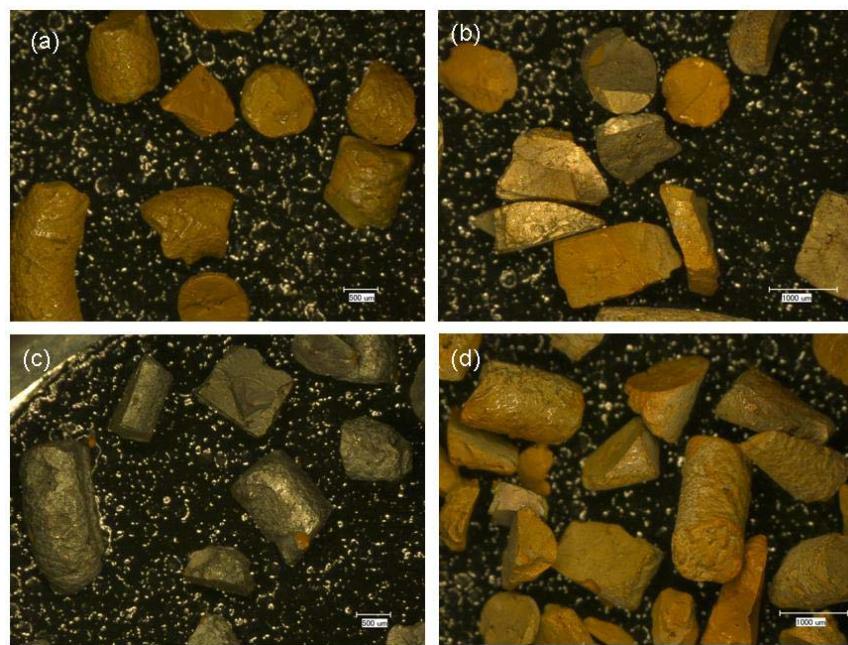


Figure S4. Optical microscope images of J-M: (a) J, (b) K, (c) L and (d) M samples.

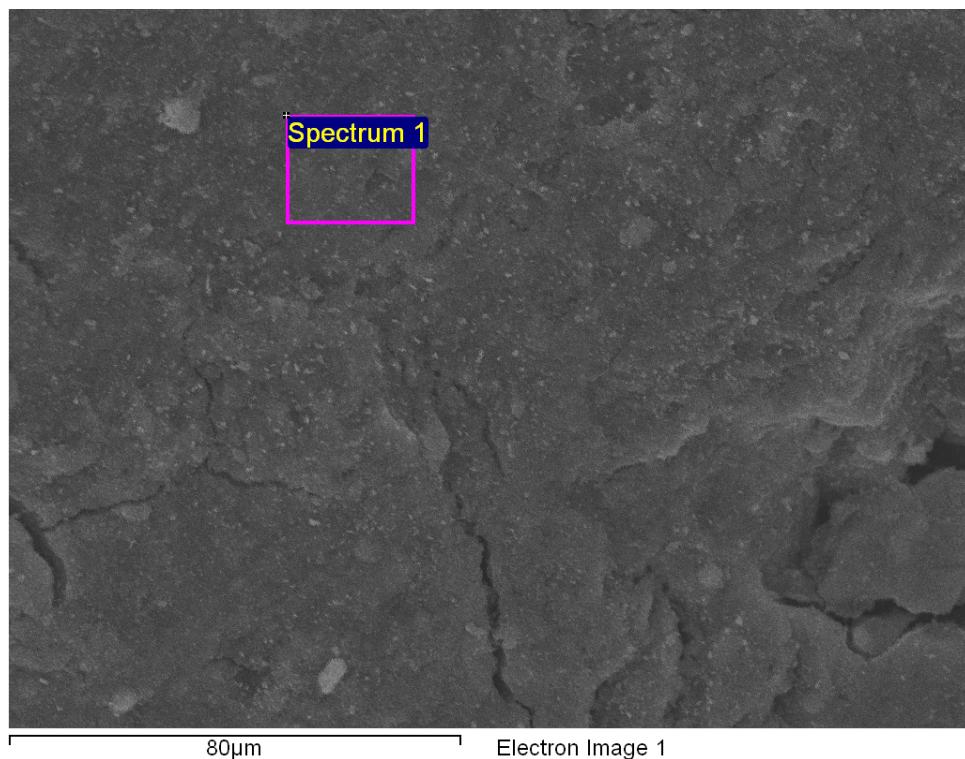


Figure S5. SEM image of F sample.

Table S1. EDX analysis of F sample.

Element	Weight %	Atomic %	Compd %
Ca K	0.14	0.12	0.20
Fe K	66.83	42.46	90.76
Rb K	0.56	0.23	0.61
Ag L	7.85	2.58	8.43
O	24.62	54.60	
Totals	100.00		

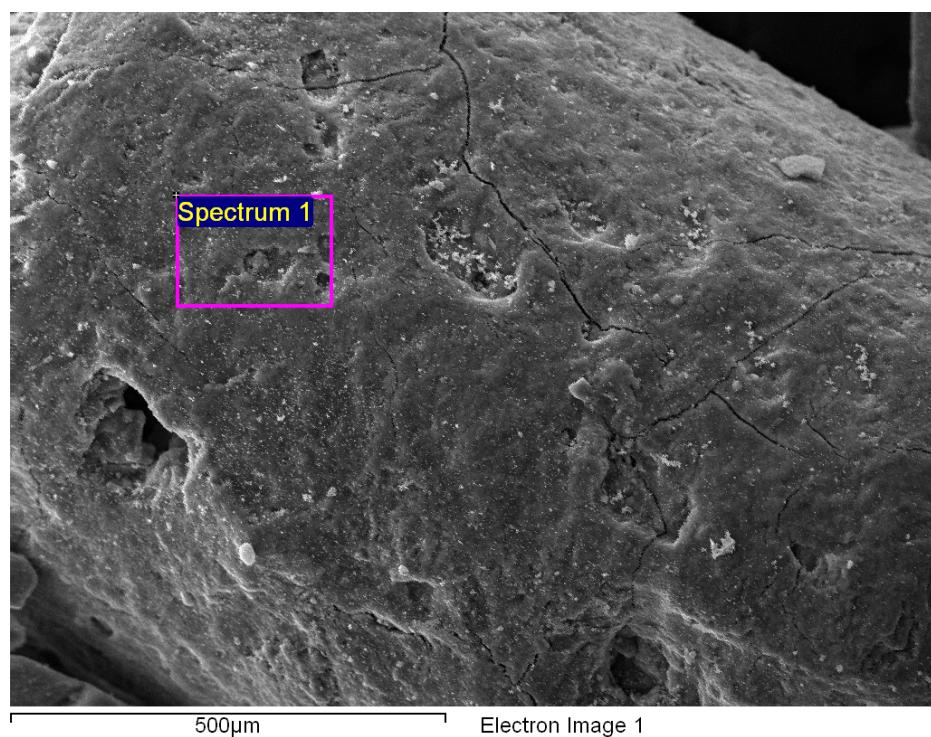


Figure S6. SEM image of G sample.

Table S2. EDX analysis of G sample.

Element	Weight %	Atomic %	Compd %
Mg K	0.23	0.32	0.37
Ca K	0.15	0.13	0.21
Fe K	68.00	42.58	92.35
Rb K	0.78	0.32	0.85
Ag L	5.78	1.88	6.21
O	25.06	54.77	
Totals	100.00		

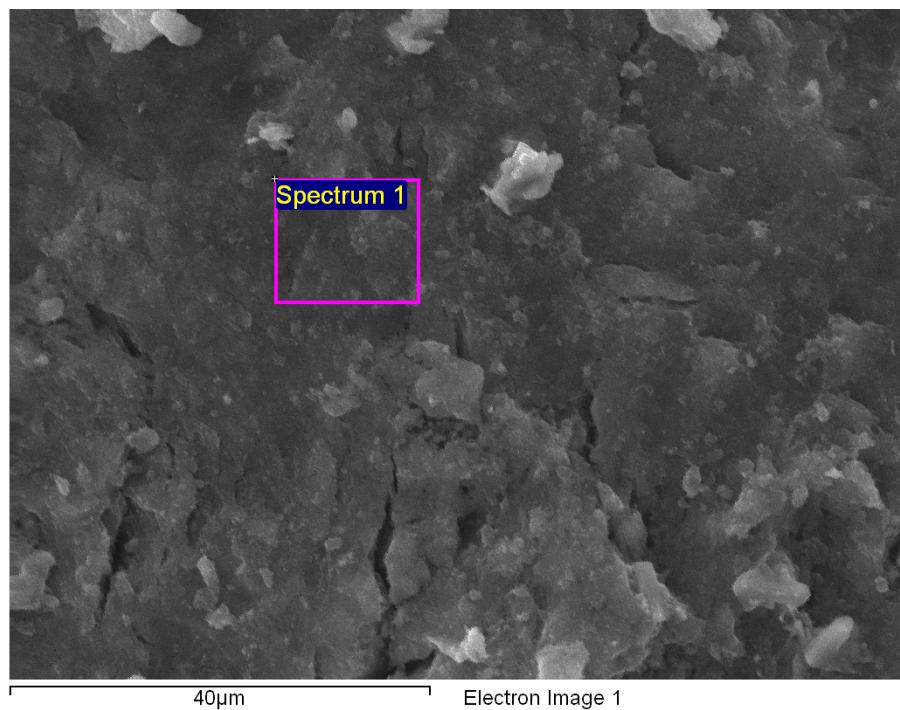


Figure S7. SEM image of H sample

Table S3. EDX analysis of H sample.

Element	Weight %	Atomic %	Compd %
F K	8.18	14.02	0.00
Si K	0.20	0.24	0.44
S K	0.31	0.31	0.76
Ca K	0.20	0.16	0.28
Fe K	61.61	35.92	83.67
Rb K	0.60	0.23	0.66
Ag L	5.60	1.69	6.01
O	23.30	47.43	
Totals	100.00		

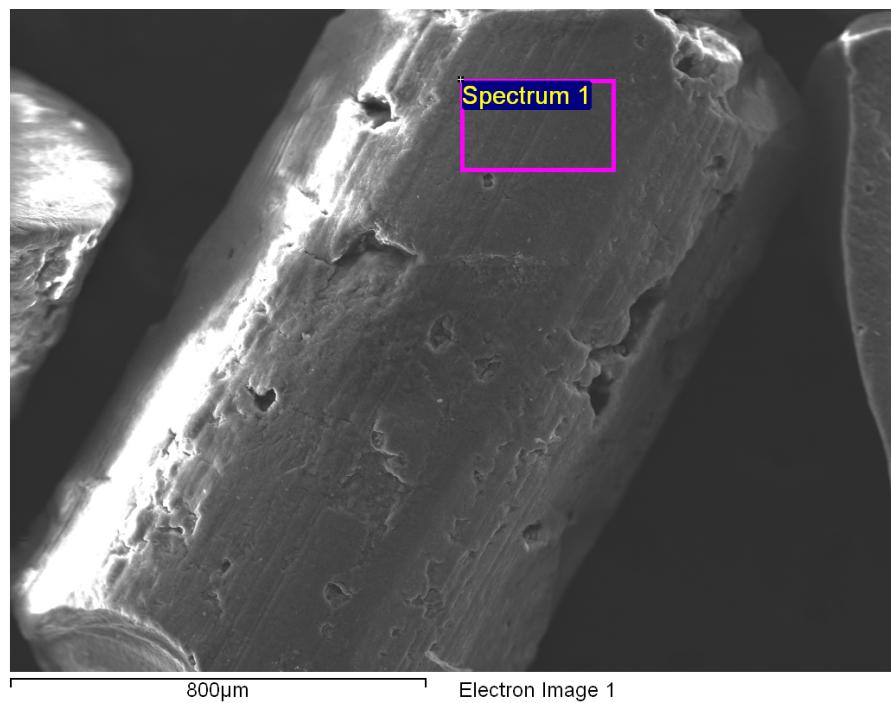


Figure S8. SEM image of J sample.

Table S4. EDX analysis of J sample.

Element	Weight %	Atomic %
O K	72.22	89.44
Na K	1.11	0.95
Mg K	0.56	0.45
Al K	0.22	0.16
Fe K	24.79	8.79
Ag L	1.11	0.20
Totals	100.00	

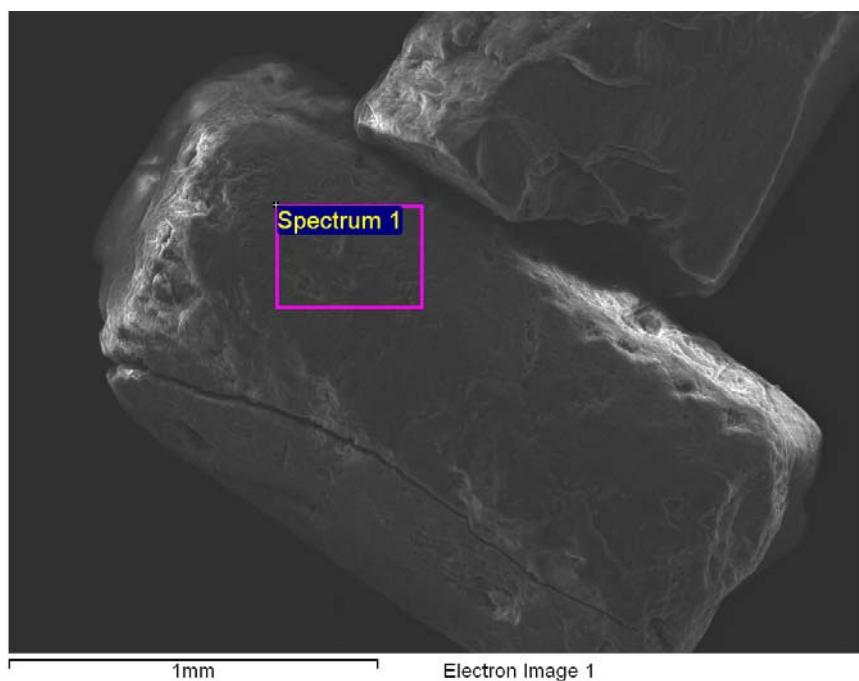


Figure S9. SEM image of K sample.

Table S5. EDX analysis of K sample.

Element	Weight %	Atomic %
O K	60.14	84.20
Na K	0.59	0.58
Mg K	0.47	0.43
Al K	0.18	0.15
Si K	0.14	0.11
Ca K	0.13	0.07
Fe K	32.99	13.23
Co K	0.45	0.17
Rb K	0.56	0.15
Ag L	4.34	0.90

Totals	100.00
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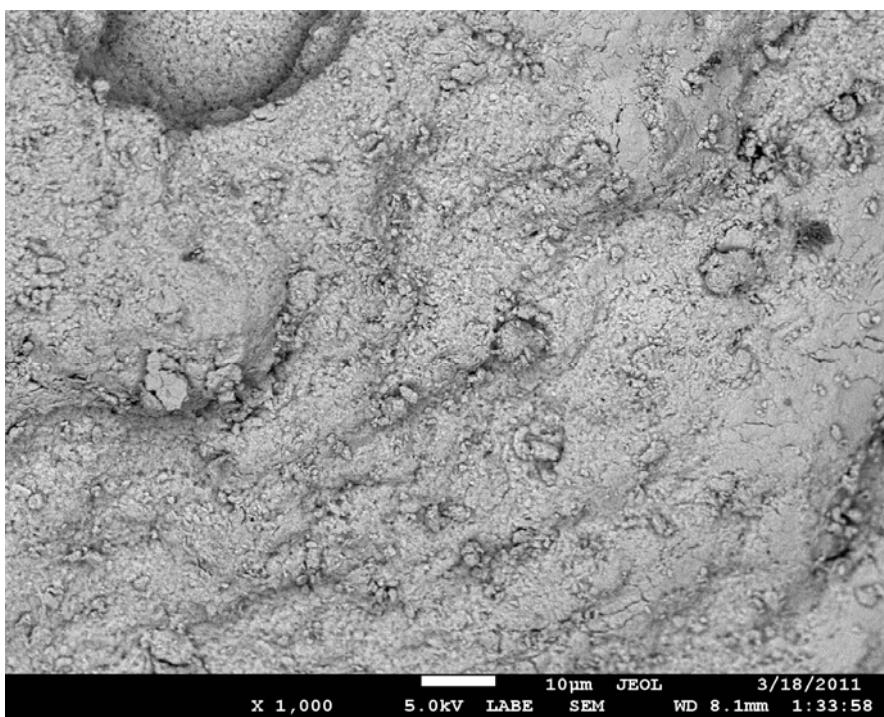


Figure S10. SEM image of control E-33 sample.