Supplementary material

Controllable in-situ growth of novel octahedral TiO_2 nanoparticles on nickel/titanium alloy fiber substrate for selective solid-phase microextraction of ultraviolet filters in water samples

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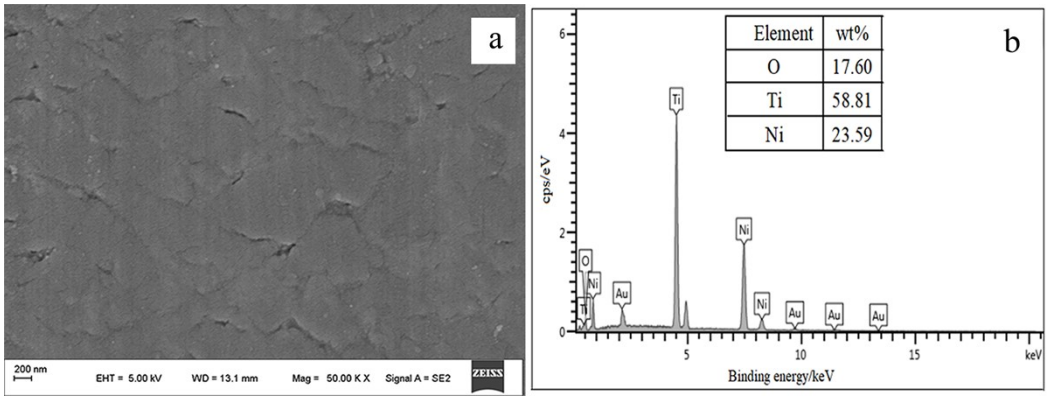

Fig. S1. Surface SEM image (a) and EDX spectrum (b) of the bare NiTi wire.

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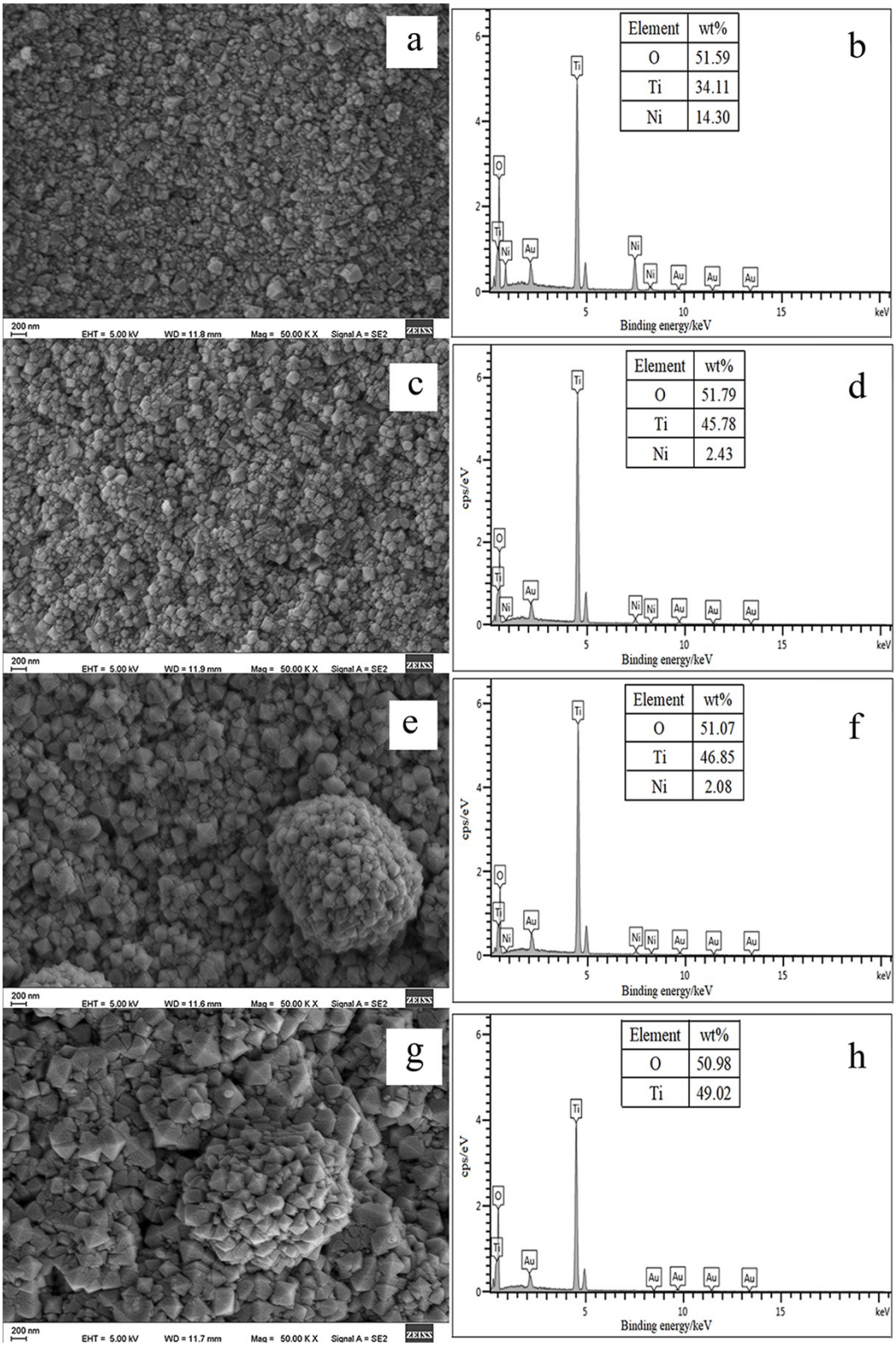

Fig. S2. SEM images and EDX spectra of the oxide coatings grown on the pretreated NiTi wire by hydrothermal reaction in HCl solution of 0.1 mol·L^{-1} (a, b), 0.2 mol·L^{-1} (c, d), 0.3 mol·L^{-1} (e, f) and 0.4 mol·L^{-1} (g, h) at 150 ℃ for 12 h.

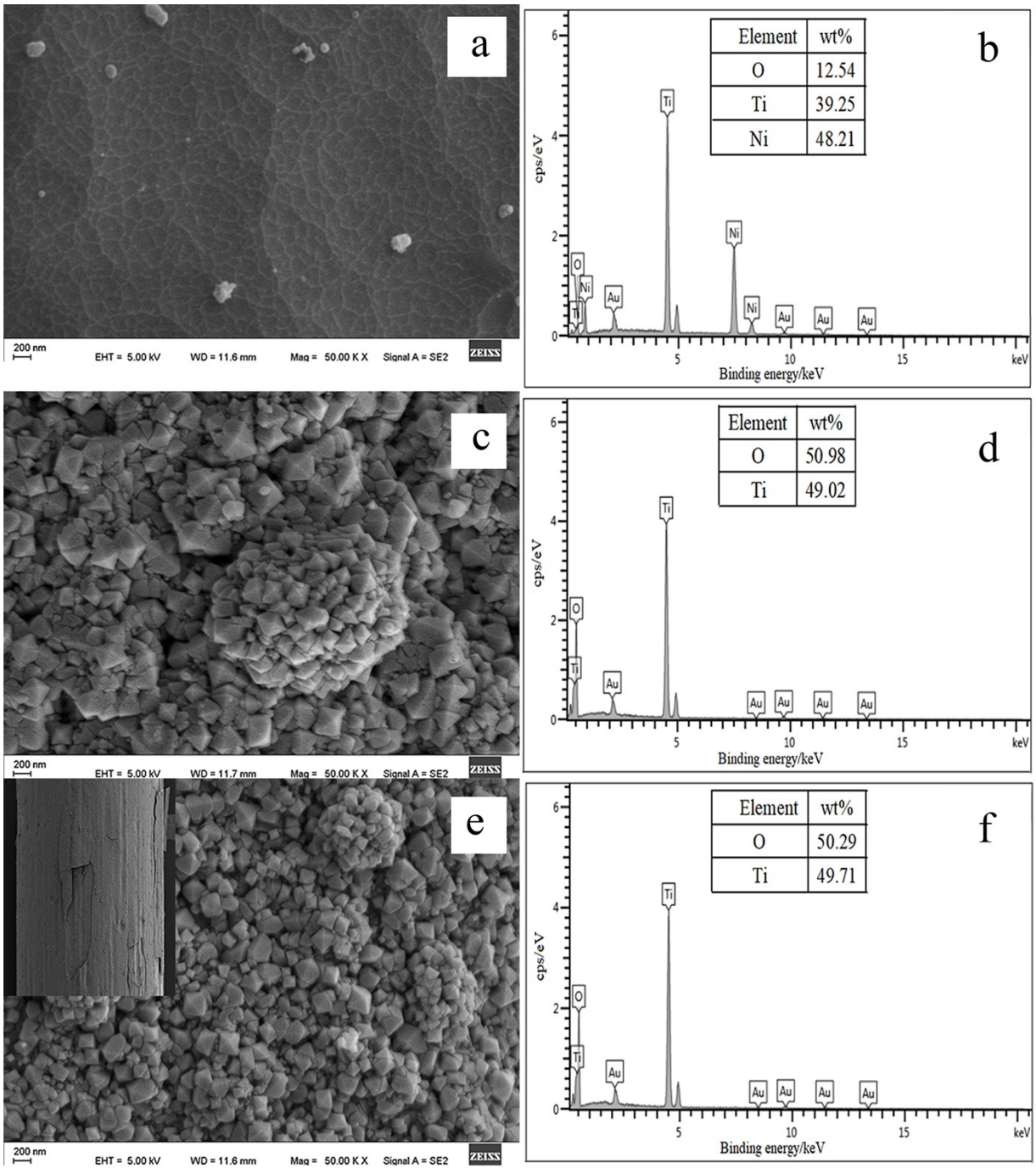

Fig. S3. SEM images and EDX spectra of the oxide coatings grown on the pretreated NiTi wire by hydrothermal reaction in HCl solution of 0.4 mol·L^{-1} at 100 ℃ (a, b), 150 ℃ (c, d) and 200 ℃ (e, f) for 12 h.

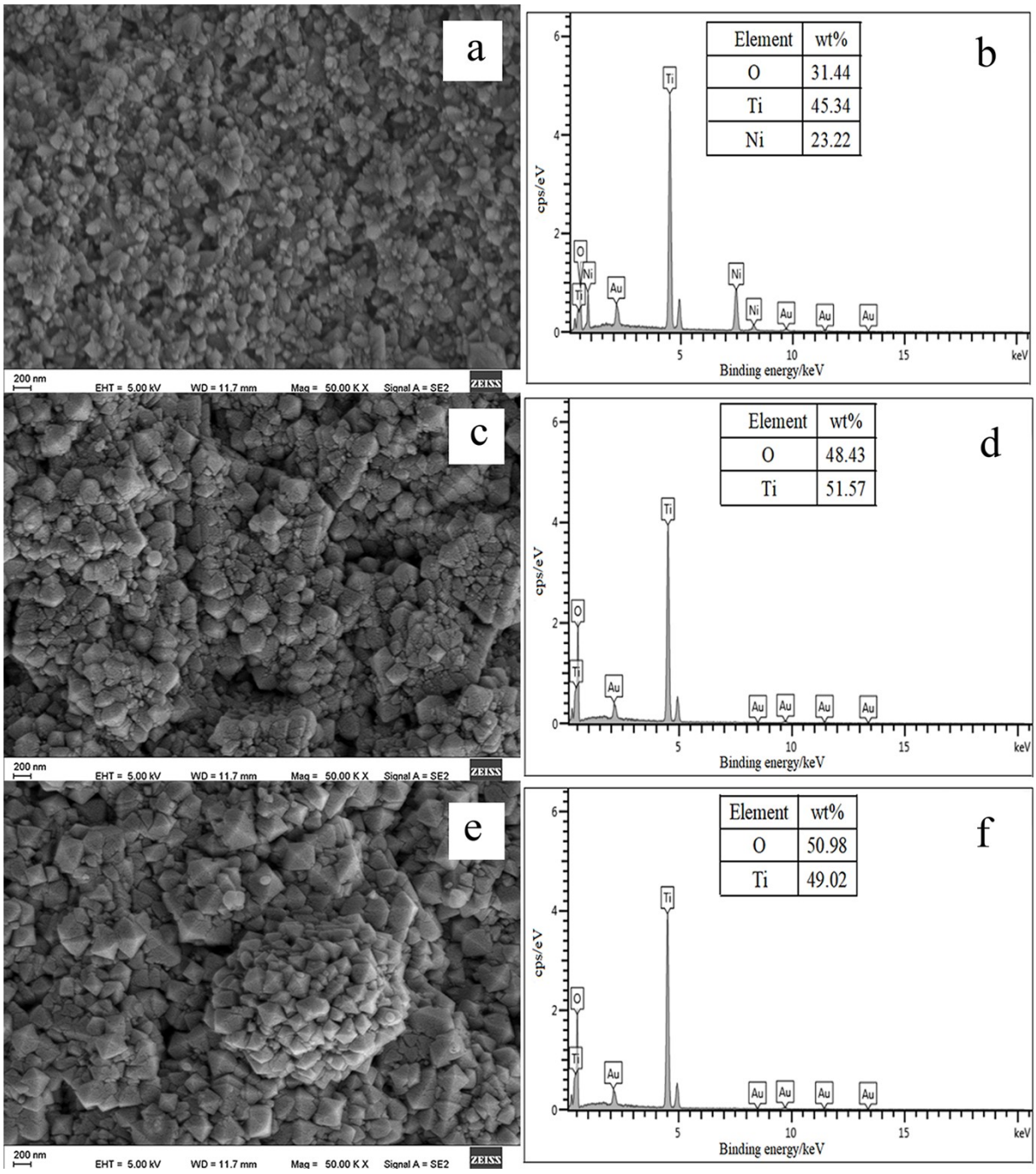

Fig. S4. SEM images and EDX spectra of the oxide coatings grown on the pretreated NiTi wire by hydrothermal reaction in HCl solution of 0.4 mol·L^{-1} at 150 °C within 3 h (a, b), 6 h (c, d) and 12 h (e, f).

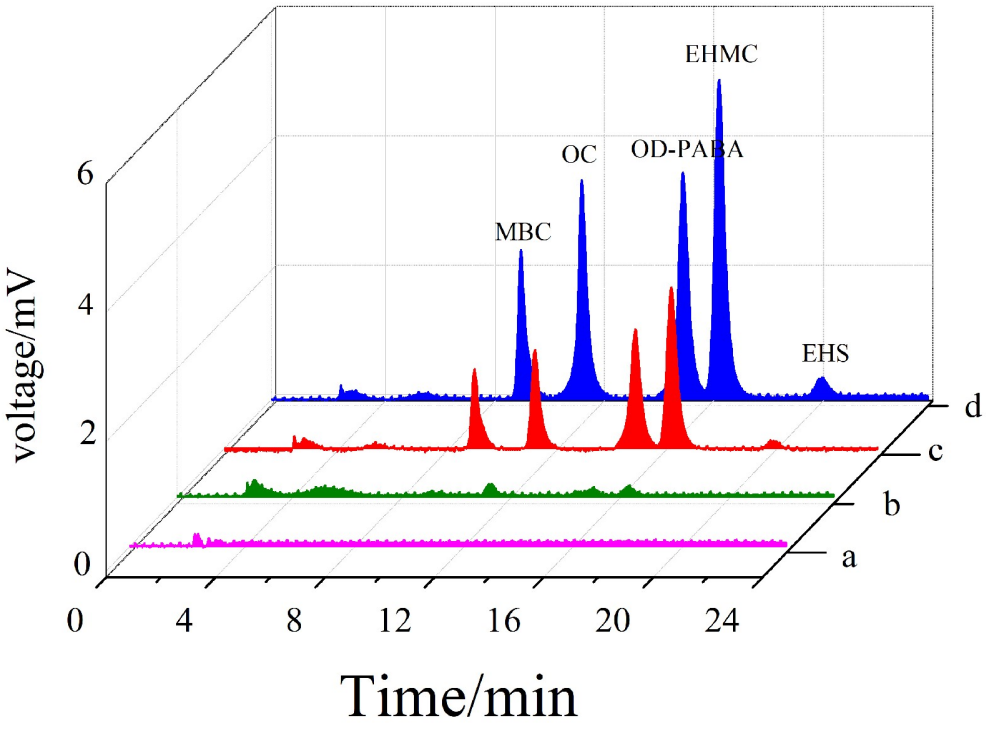

Fig. S5. Representative chromatograms of UVFs of direct HPLC for snow water (a), SPME-HPLC for snow water (b) , and SPME-HPLC for snow water spiked at 5.0 μg·L^{-1} (c) and SPME-HPLC for snow water spiked at 10 μg·L^{-1} (d).

Table S1

Analytical results for the enrichment and determination of target UVFs in real water samples (n = 3)

Samples	PAHs	Original ($\mu g \cdot L^{-1}$)	Spiked with 5.0 $\mu g \cdot L^{-1}$			Spiked with 10.0 $\mu g \cdot L^{-1}$		
			Detected ($\mu g \cdot L^{-1}$)	Recovery (%)	RSDs (%)	Detected ($\mu g \cdot L^{-1}$)	Recovery (%)	RSDs (%)
Snow water	MBC	ND[a]	4.87	97.4	5.6	9.53	95.3	4.7
	OC	ND	4.62	92.4	8.6	9.32	93.2	6.2
	OD-PABA	ND	4.35	87.0	5.5	10.4	104	5.5
	EHMC	ND	5.03	101	4.6	9.05	90.5	6.1
	EHS	ND	5.32	106	6.0	9.42	94.2	4.9
River water (Site 1）	MBC	ND	3.95	79.0	8.0	10.6	106	8.0
	OC	ND	4.74	94.8	4.9	7.62	76.2	6.7
	OD-PABA	ND	5.18	104	7.5	10.2	102	6.4
	EHMC	ND	5.10	103	5.6	9.29	92.9	5.3
	EHS	ND	4.13	82.6	5.9	8.25	82.5	4.5
River water (Site 2)	MBC	ND	5.20	104	8.2	8.93	89.3	5.4
	OC	ND	4.11	82.2	8.3	10.6	106	7.2
	OD-PABA	ND	4.38	87.6	6.7	8.77	87.7	5.2
	EHMC	ND	5.48	110	7.1	9.23	92.3	6.5
	EHS	ND	4.03	80.6	7.0	10.2	102	5.2
River water (Site 3)	MBC	ND	4.34	86.8	5.4	10.6	106	5.6
	OC	ND	4.73	94.6	8.0	9.37	93.7	6.3
	OD-PABA	ND	4.49	89.8	5.1	8.95	89.5	5.3
	EHMC	ND	4.71	94.2	7.2	8.08	80.8	7.0
	EHS	ND	5.09	102	5.9	9.41	94.1	7.2
Effluent from wastewater treatment plant	MBC	ND	4.18	83.6	5.6	7.81	78.1	6.9
	OC	0.14	3.88	74.8	6.9	7.03	68.9	6.3
	OD-PABA	0.51	3.63	62.4	5.7	6.95	64.4	4.5
	EHMC	0.46	3.52	61.2	9.1	7.68	72.2	7.3
	EHS	ND	3.14	62.8	7.2	7.79	77.9	8.7

[a] ND, not detected or lower than LOD.