

Supplementary Information for:

Facile One-Pot Construction of Copper-Loaded Polydopamine Films on
NiTi Alloy for Adjustable Antibacterial Activity and Enhanced Corrosion
Resistance

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Table S1 Surface element contents of polished NiTi, PDA/NiTi and Cu@PDA/NiTi constructed by adjusting C_{CuSO_4} .

Samples	C (at.%)	O (at.%)	N (at.%)	Cu (at.%)	Ni (at.%)	Ti (at.%)
NiTi	28.39	40.83	3.7	-	12.23	14.81
PDA/NiTi	44.41	49.74	6.12	-	-	-
1Cu@PDA	41.43	46.77	7.59	-	-	-
5Cu@PDA	40.77	41.82	6.11	11.3	-	-
10Cu@PDA	35.99	36.82	5.67	21.52	-	-
20Cu@PDA	33.14	37.45	6.25	23.16	-	-
30Cu@PDA	30.39	36.05	6.85	26.71	-	-

Table S2 Electrochemical corrosion results of polished NiTi, PDA/NiTi and Cu@PDA/NiTi in Hank's solution.

Samples	I_{corr} (A/cm ²)	E_{corr} (V vs. SCE)	E_{pit} (V vs. SCE)
NiTi	1.11×10^{-5}	-0.56	0.33
PDA/NiTi	$(1.74 \pm 0.30) \times 10^{-7}$	0.01 ± 0.03	-
1Cu@PDA	$(2.43 \pm 0.28) \times 10^{-7}$	0.05 ± 0.03	-
5Cu@PDA	$(2.57 \pm 0.31) \times 10^{-7}$	0.03 ± 0.03	-
10Cu@PDA	$(2.59 \pm 0.36) \times 10^{-7}$	0.05 ± 0.03	-
20Cu@PDA	$(2.47 \pm 0.37) \times 10^{-7}$	0.07 ± 0.04	-
30Cu@PDA	$(3.24 \pm 0.39) \times 10^{-7}$	0.08 ± 0.04	-

Table S3 The AR of the samples towards *S.aureus* and *E.coli*.

Samples	<i>S.aureus</i> (AR)	<i>E. coli</i> . (AR)
NiTi	$8.53 \pm 2.12\%$	$3.53 \pm 2.21\%$
PDA/NiTi	$3.55 \pm 1.21\%$	$13.47 \pm 3.15\%$
1Cu@PDA	$47.47 \pm 1.55\%$	$46.32 \pm 4.92\%$
5Cu@PDA	$74.43 \pm 1.70\%$	$62.01 \pm 2.62\%$
10Cu@PDA	$87.80 \pm 0.53\%$	$77.09 \pm 1.94\%$
20Cu@PDA	$95.15 \pm 1.21\%$	$97.66 \pm 0.73\%$
30Cu@PDA	$97.34 \pm 1.55\%$	$99.41 \pm 0.41\%$

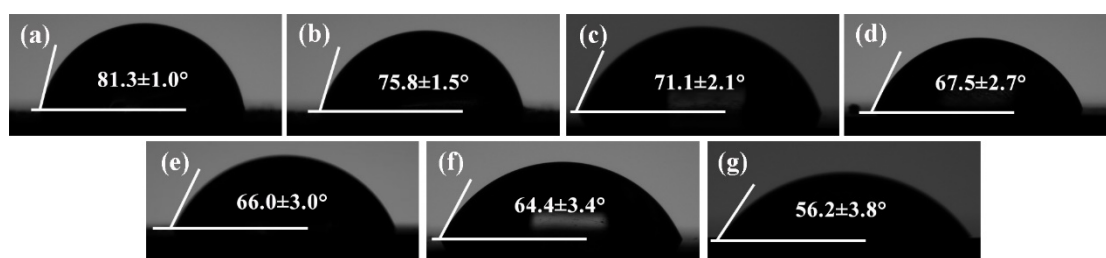


Fig. S1 Contact angles of polished NiTi, PDA/NiTi, and Cu@PDA/NiTi constructed by adjusting CCuSO₄, (a) polished NiTi, (b) PDA/NiTi, (c) 1Cu@PDA, (d) 5Cu@PDA, (e) 10Cu@PDA, (f) 20Cu@PDA and 30Cu@PDA, respectively.

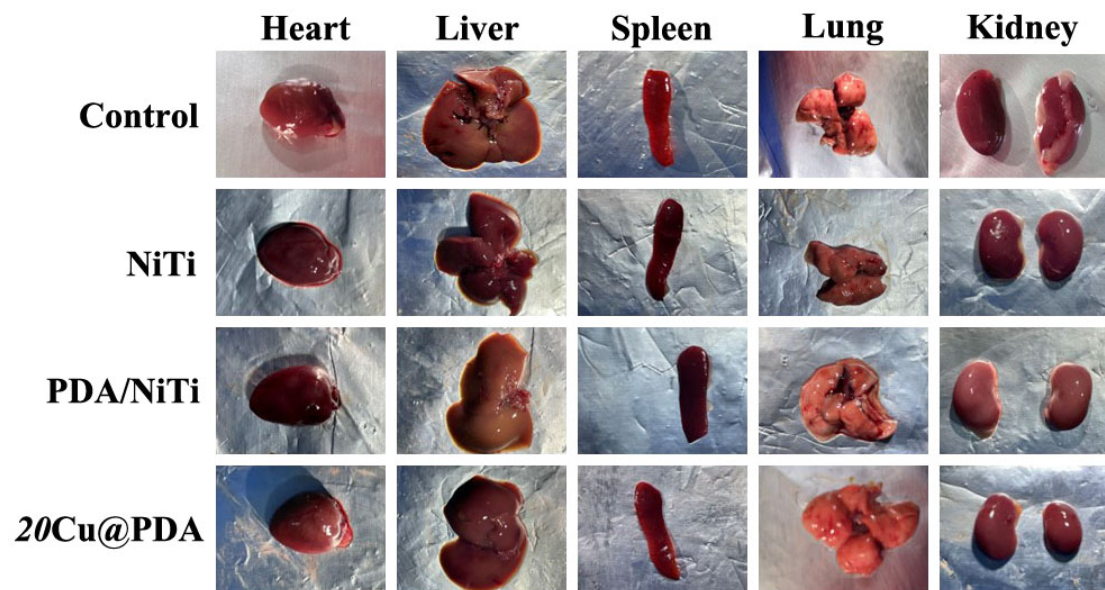


Fig. S2 Representative photographs of heart, liver spleen, lung, and kidney from control, polished NiTi, PDA/NiTi and 20Cu@PDA groups.