Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

High-definition Conductive Silver Patterns on Polyimide Film via an Ion Exchange Plating Method

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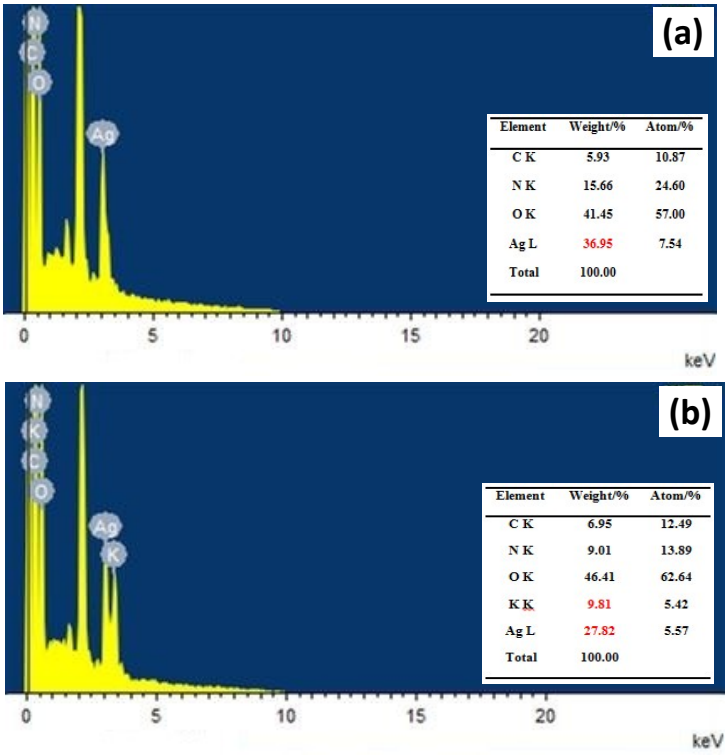

Figure S1 EDS results of circular (Φ3cm) silver pattern fabricated on polyimide film before and after Neutralizing regeneration process. (a) EDS results before Neutralization regeneration process. (b) EDS results after Neutralizing regeneration process. (Note: IEP repetitions *n*=1)

Table S1 The influence of t(A)and the IEP repetitions n on the performance of circular(Φ3cm) silver pattern on polyimide film prepared by an IEP method via mask technology.

t(A)	n	d/μm	R□/（Ω/cm²）	ρ/μΩ·cm
10min	5	0.40	0.227	9.08
1min	2	0.03	-	-
1min	5	0.06	-	-
1min	15	0.23	0.281	6.46

Note: Alkali modification condition: mass(KOH): mass(H_2O): mass($C_3H_8O_3$)=1:1:1, room temperature.

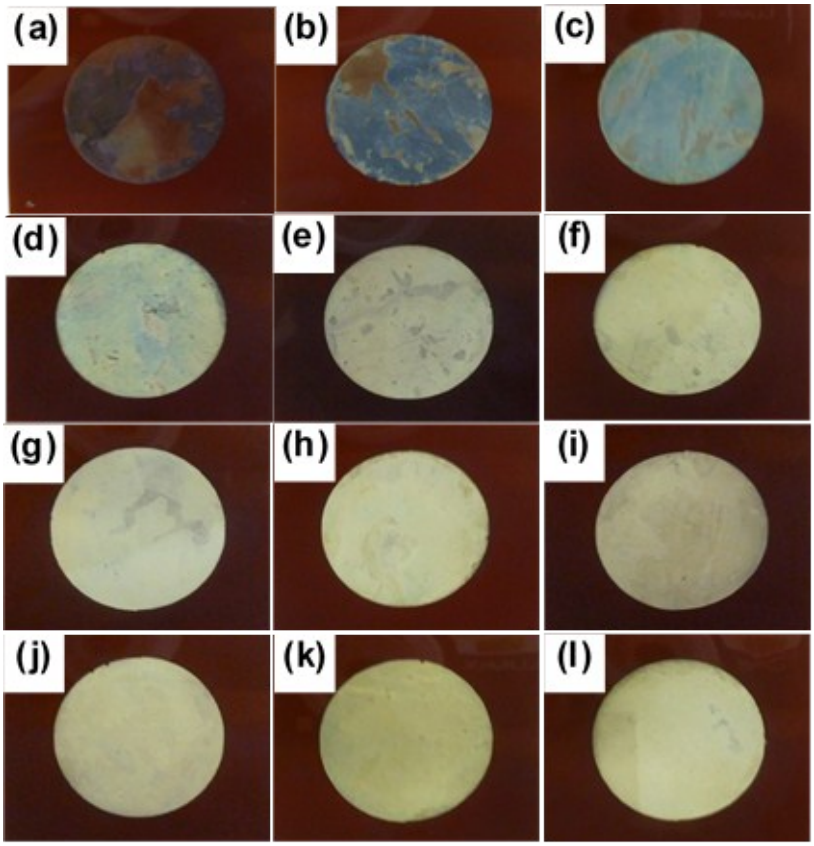

Figure S2 The digital photographs of circular (Φ3cm) silver patterns fabricated by an IEP method via mask technology under different IEP repetitions n. (a) *n*=1, (b) *n* =3, (c) *n* =5, (d) *n* =7, (e) *n* =9, (f) *n* =11, (g) *n* =13, (h) *n* =15, (i) *n* =17, (j) *n* =19, (k) *n* =21 and (l) *n*=23.

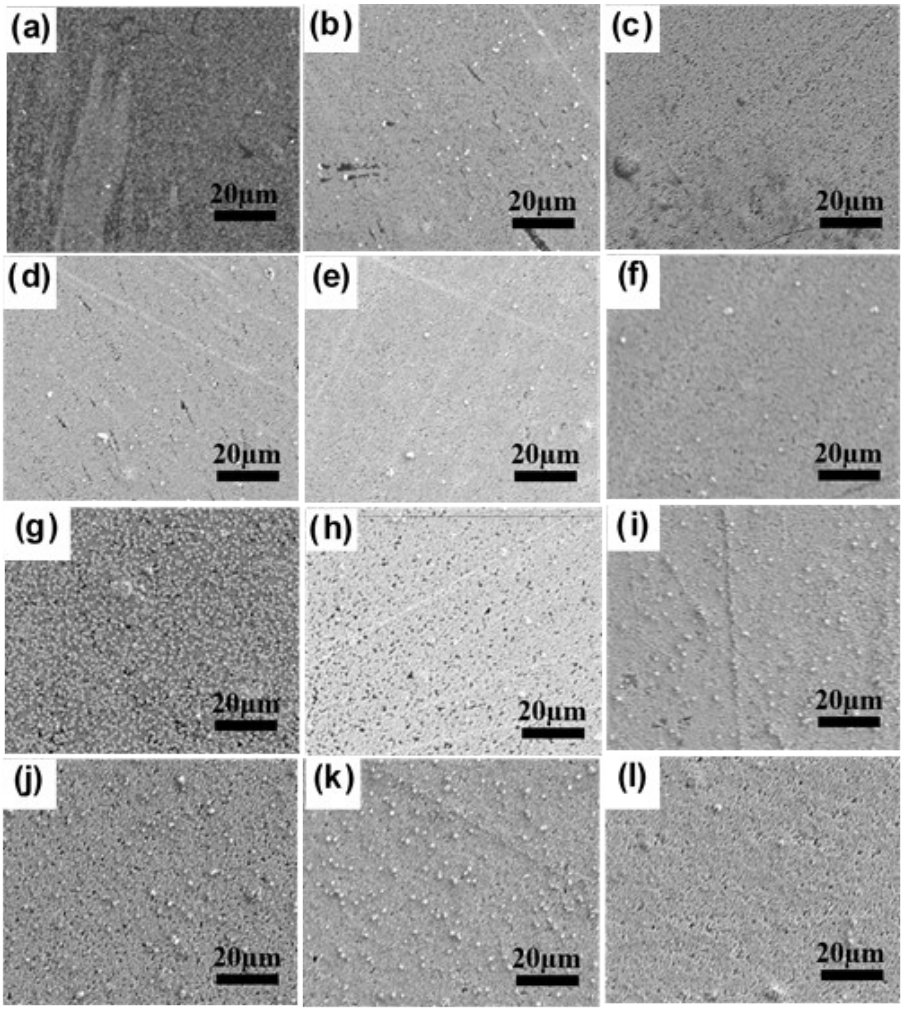

Figure S3 SEM images of circular (Φ3cm) silver patterns fabricated by IEP method via mask technology under different IEP repetitions n. (a) n=1, (b) n=3, (c) n=5, (d) n=7, (e) n=9, (f) n=11, (g) n=13, (h) n=15, (i) n=17, (j) n=19, (k) n=21, (l) n=23.