Industrial-friendly rapid printing of stretchable liquid metal circuit for patch-mode wearable healthcare device

Yanling Jia[1,*], Ke Zhang[2,*]

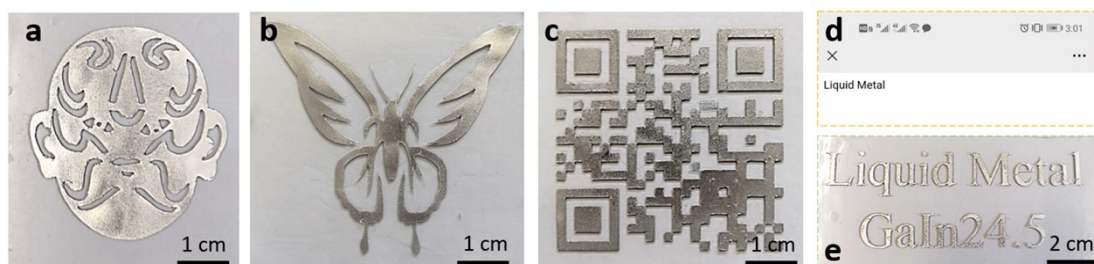[1] College of Advanced Materials Engineering, Jiaxing Nanhu University, Jiaxing 314000, China

[2] Key Laboratory of Intelligent Sensing Materials and Chip Integration Technology of Zhejiang Province, Hangzhou Innovation Institute, Beihang University, Hangzhou 310052, China

* Corresponding author

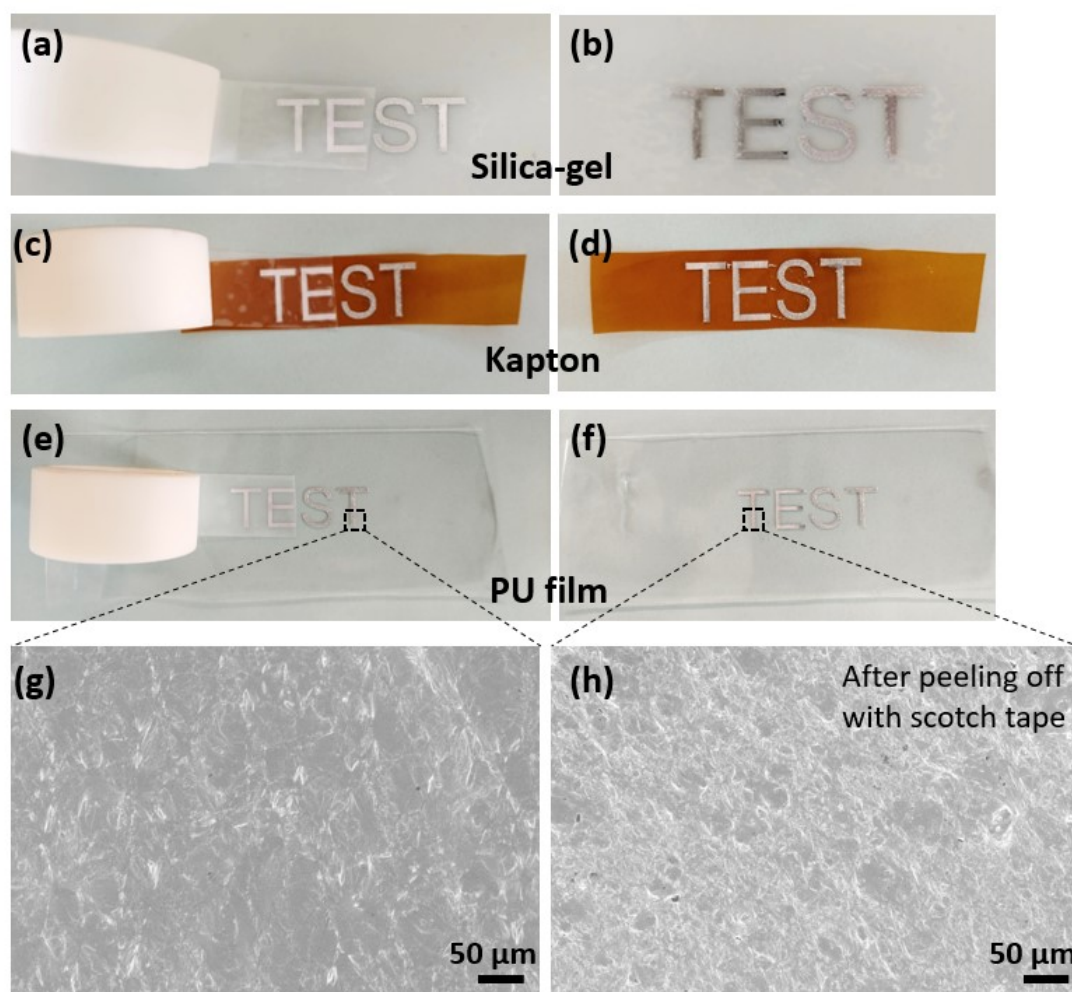E-mail: jiayl2021@163.com, cr7zhangke_hz@buaa.edu.cn

Figure S1

Figure S1. SALP-prepared patterns of (a) opera facial makeup, (b) butterfly and (c) two-dimensional code. (d) Recognition result of 2D code in Figure S1c. (e) Numbers and letters patterns by SALP.
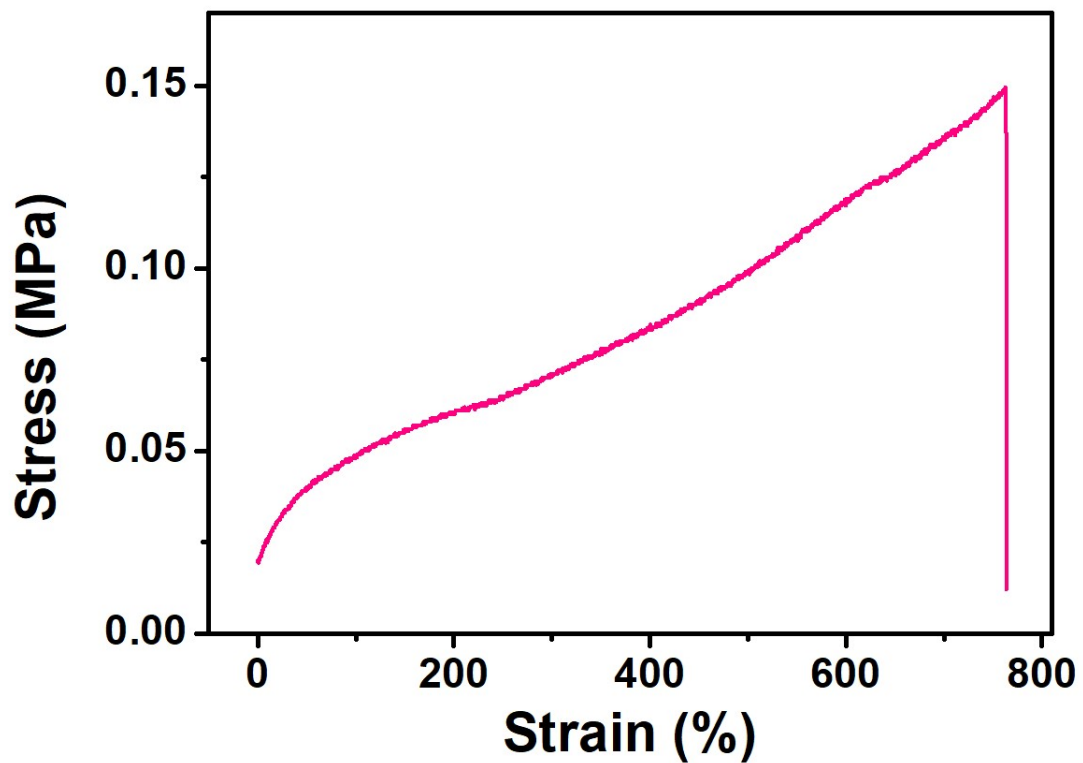
Figure S2

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1 Figure S2. The optical images of liquid metal pattern printed by SALP

2 before and after peeling off with scotch tape, on (a-b) silica-gel substrate,

3 (e-f) Kapton substrate and (e-f) PU substrate, respectively. (g-h) The SEM

4 images of the surface of liquid metal pattern on PU substrate before and

5 after peeling off with scotch tape, respectively.
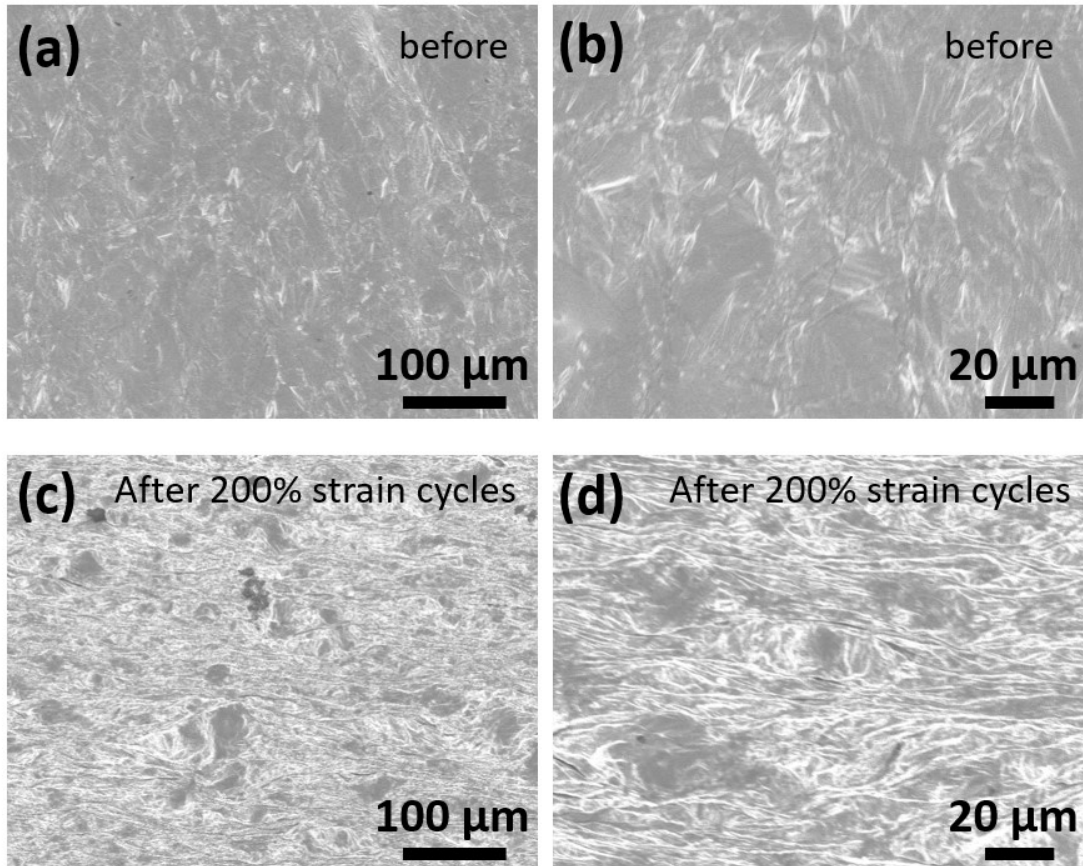
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7 **Figure S3**

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10 Figure S3. Stress-strain relationship of PU film.

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12 **Figure S4**

Figure S4. The SEM images of the liquid metal electrode (a-b) before and (c-d) after stretching by 200% strain cycles, respectively.

Table S1

Table S1. Reference parameters of linear function relationship between shadow mask size and the actual size under various prestretching conditions ($y=kx+b$, y is actual size (µm) and x is mask size (mm)).

Strain	k	b
100%	507.23	46.29
200%	365.22	52.31
300%	284.33	42.42
400%	222.10	29.64
500%	207.43	21.79
600%	187.51	13.42

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