Electronic Supplementary Material (ESI) for Energy & Environmental Science.

Proof-of-Concept for Facile Perovskite Solar Cell Recycling

Supporting Information

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1. Process

Photographs of the samples at each processing step are shown below.

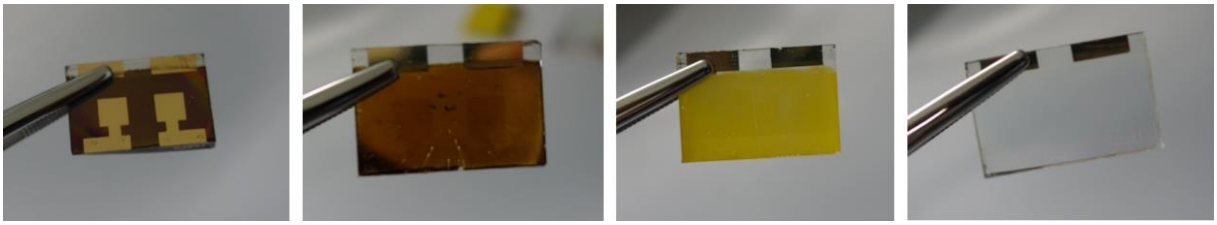

Figure S 1Photographs of solar cell devices before recycling, after removal of the cathode, after dissolution of MAI and after removal of PbI_2

Gold removal in chlorobenzene is shown below.

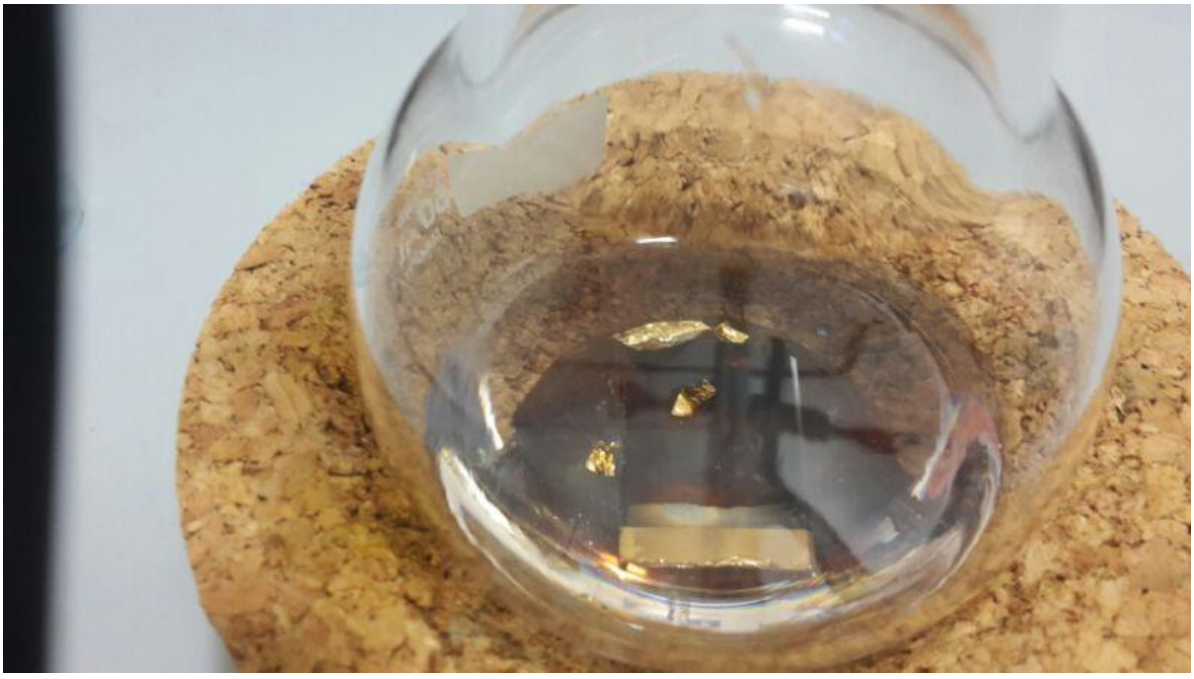

Figure S 2 Gold removal in chlorobenzene bath

2. X-ray fluorescence (XRF)

XRF was used to assess purity of the recovered metal. Spectra below were taken on commercial gold used for evaporation of the first set of solar cells and on gold recovered from the chlorobenzene bath. Characteristic gold lines indicated in red. XRF spectra were collected on a Fischerscope X-ray XAN with tungsten nickel anticathode.

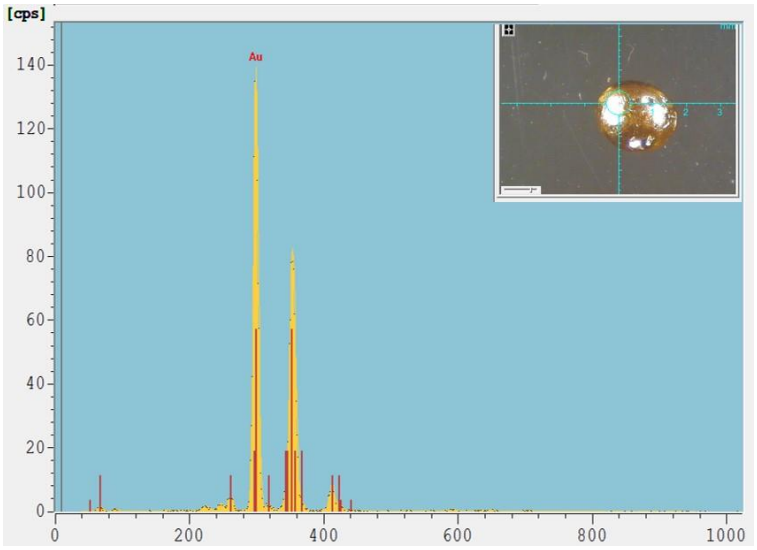

Figure S 3 XRF spectrum of commercial gold sample used for evaporation, inset shows sample

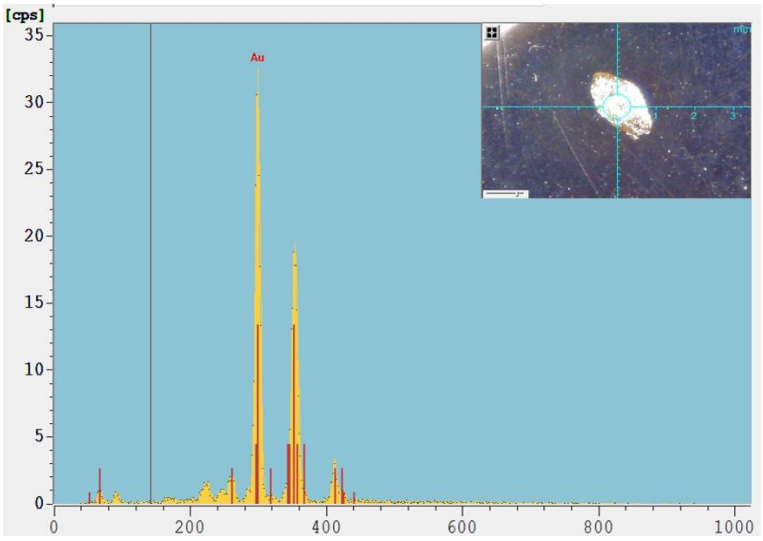

Figure S 4 XRF spectrum of gold recovered after first recycling step, inset shows sample

3. Hysteresis

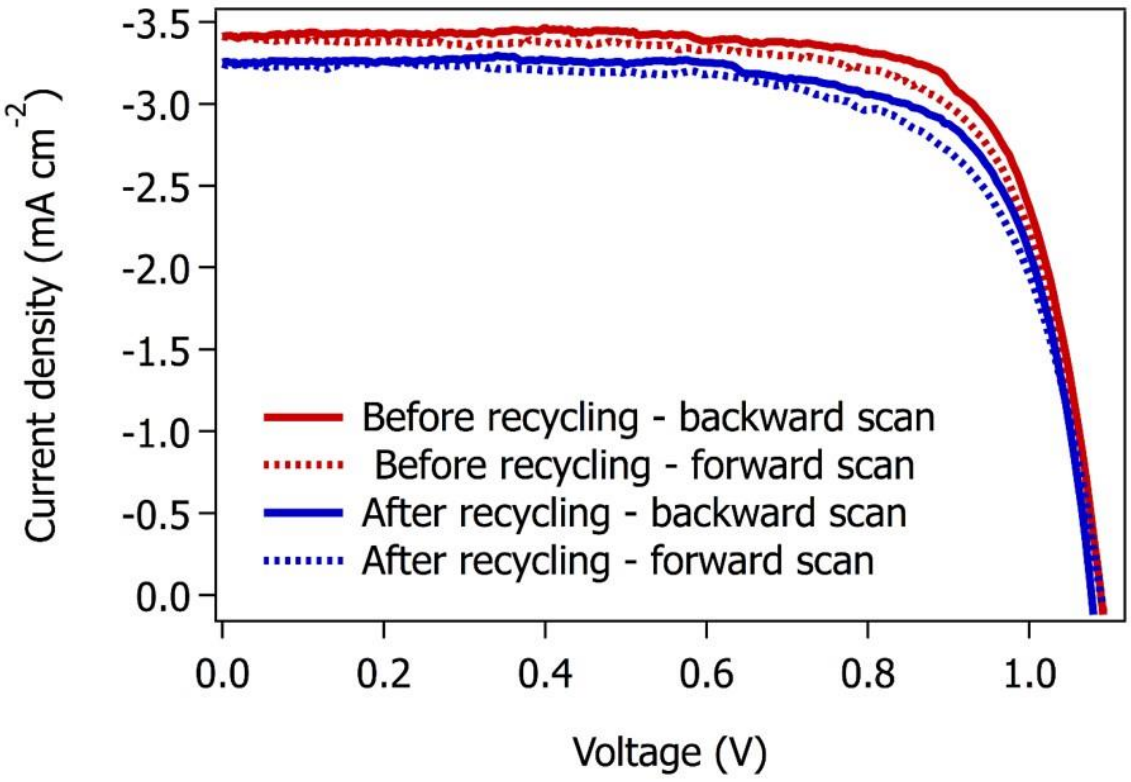

Figure S 5jV-characteristics of PSC device in forward and backwards scan before and after recycling