## Atomic Layer Deposition Assisted Fabrication of Metal-Organic Framework Films for Flexible Biosensing Devices

Jinlong Wang<sup>1</sup>, Xinyi Ke<sup>1</sup>, Zhe Zhao<sup>1</sup>, Xueqin Zuo<sup>2</sup>, Xueqiang Lu<sup>2</sup>, Gaoshan Huang<sup>1</sup>,

Yongfeng Mei<sup>1</sup>

<sup>1</sup>Department of Materials Science, Fudan University, Shanghai 200433, P. R. China <sup>2</sup>Jiangsu MNT Micro and Nanotech Co., Ltd., Wuxi 214111, Jiangsu, P. R. China

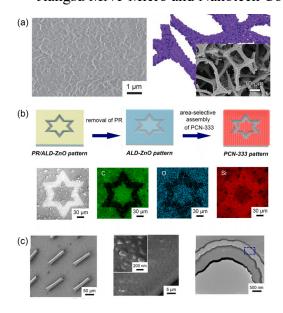


Fig. S1. (a) Growth of MOF films on planar substrates and 3D high-aspect ratio substrates by induction effect of oxide nanomembranes pre-deposited by ALD [Advanced Functional Materials, 2019, 29: 1906365]. (b) Patterning of MOF film [Nano Today, 2022, 42: 101347]. (c) Preparation of MOF film on 3D tubular microstructures [ACS Applied Materials & Interfaces, 2021, 13: 58104].

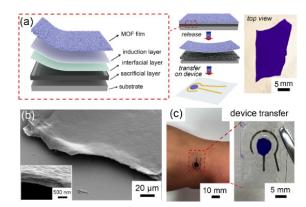


Fig. S2. (a) Schematic of the preparation of free-standing MOF film and corresponding optical microscope photograph. (b) SEM of free-standing MOF film. (c) Photograph of MOF film transferred to a device attached to human skin [*Advanced Science*, **2024**, 2310189].

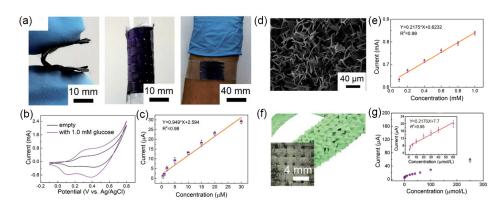


Fig. S3. (a) Photographs of flexible MOF film-based glucose sensor. (b) and (c) Sensing ability of the flexible sensor for glucose [*Journal of Materials Chemistry A*, **2020**, 8: 26119]. (d) Morphology of MOF films prepared on 3D substrate. (e) Sensing performance of the sensor for lactic acid [*Chemical Engineering Journal*, **2021**, 417: 129285]. (f) Photograph of MOF film prepared on fiber substrate. (g) Sensing performance of the sensor for dopamine [*Chinese Science Bulletin*, **2021**, 66: 4187].