

Supplementary material

# Wearable Localized Surface Plasmon Resonance-Based Biosensor with Highly Sensitive and Direct Detection of Cortisol in Human Sweat

Minghui Nan <sup>1,2</sup>, Bobby Aditya Darmawan <sup>1</sup>, Gwangjun Go <sup>1</sup>, Shirong Zheng <sup>1,3</sup>, Junhyeok Lee <sup>1,3</sup>, Seokjae Kim <sup>1,3</sup>, Taeksu Lee <sup>1,\*</sup>, Eunpyo Choi <sup>1,2,3,4,\*</sup>, Jong-Oh Park <sup>1,\*</sup> and Doyeon Bang <sup>1,2,4,5,\*</sup>

<sup>1</sup> Korea Institute of Medical Microrobotics, 43-26 Cheomdangwagi-ro, Buk-gu, Gwangju 61011, Republic of Korea

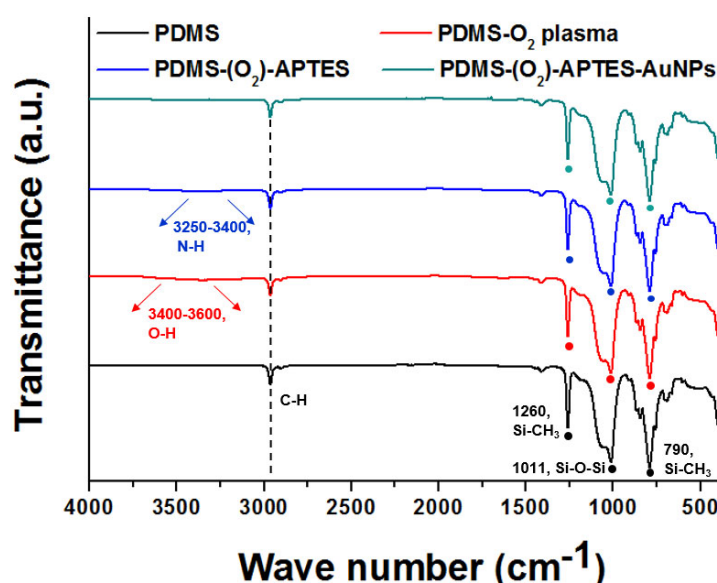
<sup>2</sup> Robot Research Initiative, Chonnam National University, 77 Yongbong-ro, Buk-gu, Gwangju 61186, Republic of Korea

<sup>3</sup> School of Mechanical Engineering, Chonnam National University, 77 Yongbong-ro, Buk-gu, Gwangju 61186, Republic of Korea

<sup>4</sup> College of AI Convergence, Chonnam National University, 77 Yongbong-ro, Buk-gu, Gwangju 61186, Republic of Korea

<sup>5</sup> Graduate School of Data Science, Chonnam National University, 77 Yongbong-ro, Buk-gu, Gwangju 61186, Republic of Korea

\* Correspondence: tslee@kimiro.re.kr (T.L.); eunpyochoi@jnu.ac.kr (E.C.); jop@kimiro.re.kr (J.-O.P.); db@jnu.ac.kr (D.B.)



**Figure S1.** FT-IR spectra of PDMS, PDMS-O<sub>2</sub> plasma, PDMS-(O<sub>2</sub>)-APTES, and PDMS-(O<sub>2</sub>)-APTES-AuNPs.

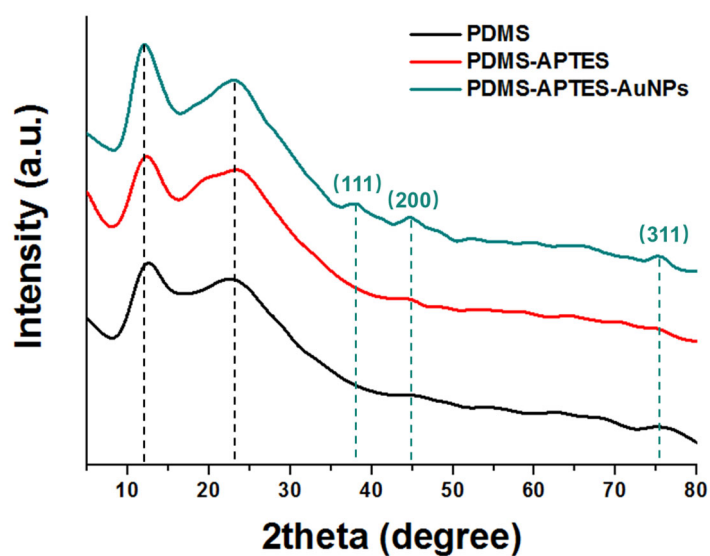


Figure S2. XRD analysis of PDMS, PDMS-APTES, PDMS-APTES-AuNPs.

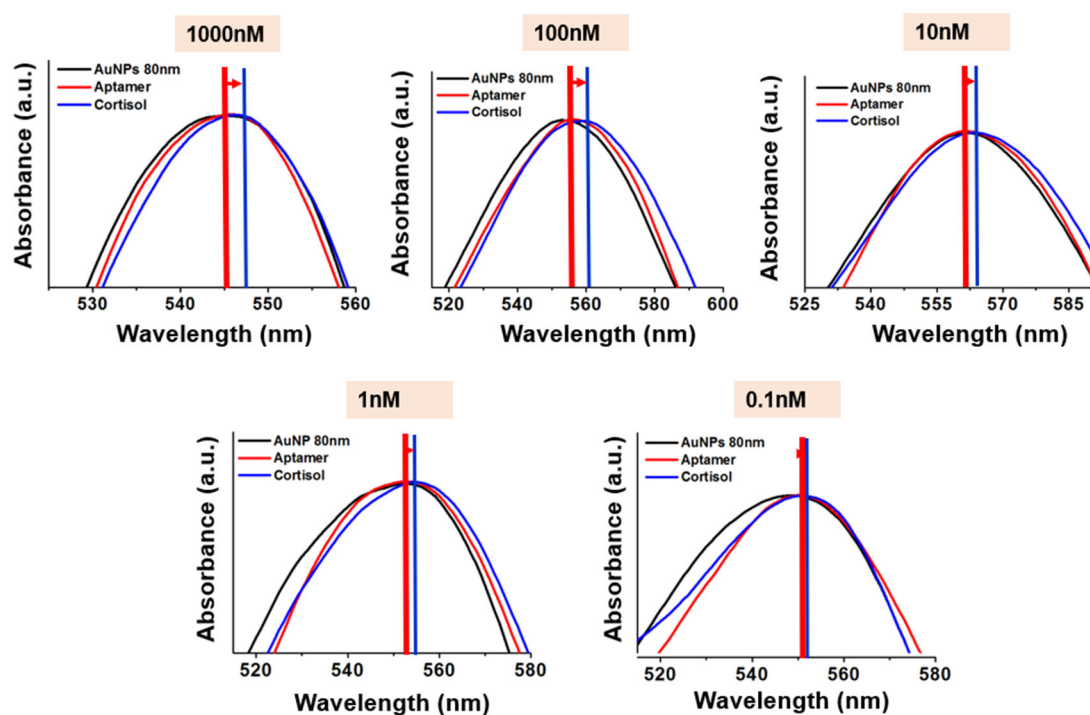


Figure S3. Cortisol detection using the sweat biosensor at different concentrations of cortisol.