Supporting Information

Electrospun nanofiber templated assembly of hybrid nanoparticles

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Fig. S1 UV-vis spectra of (a) Au sNPs, (b) Au bNPs, (c) Au NRs.

Fig. S2 Low magnification SEM images of the PAA/PVA electrospun nanofibers assembled with (a) Au sNPs, (b) Au sNPs-Au bNPs, (c) Au sNPs-Au NRs and (d) Au sNPs–Pd NCs.
Fig. S3 SEM (S-4300, nanofibers were sputtered with a gold layer) images of the PAA/PVA electrospun nanofibers assembled with Au sNPs. The needle-to-collector distances are (a) 10 cm, (b) 15 cm, (c) 20 cm, (d) 25 cm and (e) 30 cm, respectively.

Fig. S4 Photographs of the PAA/PVA electrospun nanofibers assembled with different NPs: from left to right, Au sNPs, Au sNPs-Au bNPs, Au sNPs-Au NRs and Au sNPs–Pd NCs. The size of the membranes is about 1.5 cm × 1.5 cm.

Table S1 Comparison of the Au sNPs-Au bNPs composite nanofibrous membrane for 4-ATP detection with other nanofiber membranes.

| Refs. | Materials                                      | Detection limit |
|-------|------------------------------------------------|-----------------|
| 1     | Ag NPs assembled on PEI/PVA nanofibers         | $10^{-8}$ M     |
| 2     | plate-like Ag NCs gown on nanofibers            | $10^{-10}$ M    |
| 3     | Ag NPs assembled on PE nanotubes               | $10^{-8}$ M     |
Ag NP functionalized glass fiber \(5 \times 10^{-8}\) M

Ag NPs decorated on 3D TiO\(_2\) film \(10^{-7}\) M

Ag NCs assembled tapered fiber probe \(10^{-7}\) M

Au-coated magnetic nanoparticles \(10^{-9}\) M

Au NPs decorated inverse opal capillary \(10^{-9}\) M

Au NPs decorated on PAA/PVA nanofibers \(10^{-8}\) M

ZnO nanofibers deposited on silver foil \(10^{-12}\) M

Au NPs decorated on cellulose nanofibers \(10^{-12}\) M

This work Au sNPs-Au bNPs composite nanofibers \(10^{-13}\) M

References for Table S1:

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Table S2 ICP results of the the PAA/PVA electrospun nanofibers assembled with different NPs.

| Sample                  | Au   | Pd   | Loading Contents |
|-------------------------|------|------|------------------|
| Au sNPs (10.18 mg)      | 1.07 mg | N/A | Au sNPs: 10.5 wt% |
| Au sNPs-Au bNPs (9.80 mg) | 2.30 mg | N/A | Au bNPs: 13.0 wt% |
| Au sNPs-Au NRs (10.62 mg) | 2.23 mg | N/A | Au NRs: 10.5 wt% |
| Au sNPs–Pd NCs (10.25 mg) | 1.06 mg | 1.31 mg | Pd NCs: 12.8 wt% |