**Table 1.** Analytical performance of the flexible label-free platinum immunosensor for SARS-CoV-2 determination compared with the literature.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Electrode** | **Technique** | **LDR** | **LOD** | **Sample** | **Refs.** |
| SPCE | Chronoamperometry | 0.5 to 10 ng mL-1 | 0.19 ng mL-1 | Artificial saliva | [85] |
| Carbon black-SPE | SWV | 0.04 to10 μg mL−1 | 19.0 ng mL−1 | Saliva | [86] |
| SPCE | EIS | 1.0x10-11 to 1.0x10-7 mol L-1 | 19.0 ng mL−1 | Human saliva | [83] |
| Gpt-PLA | CV | 5.0 to 75 nmol L−1 | 1.36 nmol L−1 | Artificial saliva | [87] |
| SiO2@UiO-66/SPCE | EIS | 100 fg mL-1 to 10 ng mL-1 | 100 fg mL-1 | Nasal fluid | [45] |
| GCE | SWV | 0.1 a 1000 ag mL-1 | 0.01 ag mL-1 | Saliva and oropharyngeal swab | [75] |
| G/PLA | EIS | 1.0 to 10 μg mL−1 | 0.5 μg mL−1 | Human serum | [88] |
| SPAuE | Chronoamperometry | 0 e 1.0 μg mL−1 | 22.5 ng mL−1 | Nasopharyngeal swab | [89] |
| *Pt/BioPET* | *SWV;*  *EIS* | *0.7 to 7.0 pmol L−1*  *1.0 to 30.0 pmol L−1* | *0.7 pmol L−1*  *1.0 pmol L−1* | *Artificial saliva* | *This Work* |

LDR: Linear dynamic range; LOD: Limit of detection; SPCE: screen-printed carbon electrodes; Gpt-PLA: graphite-polylactic acid; @UiO-66: universitetet i Oslo-66; GCE: glassy carbon electrode; G/PLA: graphene/polylactic acid; SPAuE: gold screen-printed electrode.

**Table S1 -** Analytical performance of the Pt-based sensor for the L-Cys determination compared with other sensors in the literature.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Electrode** | **Technique** | **Linear range (μmol L−1)** | **LOD (μmol L−1)** | **Ref.** |
| AuNP/MnP/FTO | Chronoamperometry | 12.0 to 34.0 | 2.40 | [2] |
| SPE/PB-ammine | Chronoamperometry | 100 to 500 | 72.0 | [3] |
| GR/CD/Pt/SPE | DPV | 0.50 to 40.0  40.0 to 170 | 0.12 | [4] |
| Poli (ácido *p* -cumárico) / MWNT/GCE | DPV | 7.5 to 1000 | 1.1 | [5] |
| CuFe2O4/rGO-Au | CV | 50.0 to 400 | 0.383 | [6] |
| 3D PLA-GDMF-EC+PB | Chronoamperometry | 3.0 to 230 | 0.858 | [7] |
| FePc–AuNP/GPE | DPV | 50.0 to 1000 | 0.27 | [8] |
| GC/RGO/cobalt (II) porphyrazine | Chronoamperometry | 1000 to 6.6×105 | 0.79 | [9] |
| MoN/N-MWNTs | Chronoamperometry | 5.0 to 1.26×104 | 3.64 | [10] |
| Cu-CoHCF | CV | 6.0 to 1000 | 5.0 | [11] |
| InHCF | Chronoamperometry | 100 to 1000 | 50 | [12] |
| CoTAPc-MWNTs | Chronoamperometry | 5.0 to 40 | 0.28 | [13] |
| *Pt/Bio-PET* | *Chronoamperometry* | *3.98 to 39.0*  *39.0 to 145* | *0.70*  *2.36* | *This work* |

**Notes:** AuNP: gold nanoparticles; MnP: metallated porphyrin; FTO: fluorine tin oxide-coated glass; SPE: screen-printed electrodes; PLA-GDMF-EC: activated polylactic acid and graphene electrode; PB: Prussian blue; GR: reduced graphene; CD: oxide-*β*-cyclodextrin; Pt: platinum; MWNT: multi-walled carbon nanotubes; GCE: glassy carbon electrode; CuFe2O4: copper ferrite; rGO: reduced graphene oxide; MoN/N-MWNTs: Molybdenum nitride/nitrogen-doped multi-walled carbon nanotubes; Cu-CoHCF: copper–cobalt hexacyanoferrate; InHCF: Indium hexacyanoferrate; CoTAPc: cobalt tetraaminophthalocyanine