```
a       94    LTQINTTLLDLTYEMLSLQQVVKALNESYIDLKEL  129,   Sequence ID: 4NJL_A,
              LTQINTTLLDL YEM  L++VVK L ESYIDLKEL         Identities:29/36(81%), Positives:31/36(86%),
b       10    LTQINTTLLDLEYEMKKLEEVVKKLEESYIDLKEL  44
              ++ IN ++++++ E+ +L EV K L ES IDLKEL         Identities:16/35(46%), Positives:26/35(74%),
c       1169  ISGINASVVNIQKEIDRLNEVAKNLNESLIDLKEL  1203,   Sequence ID: QRX11930.1
```

**Figure S1.** Sequence alignment of HR2 region of coronaviruses: MERS-CoV (**a**), used pancoronaviral peptide (**b**) and SARS-CoV-2 (**c**).

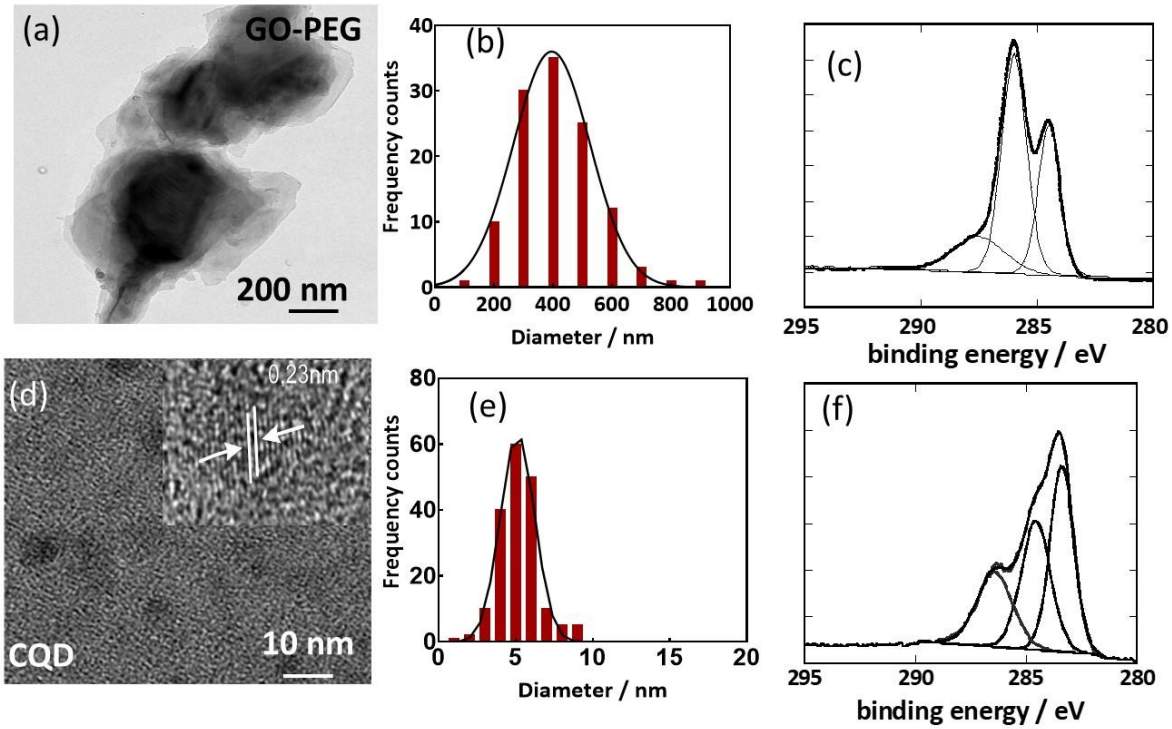


**Figure S2.** Low-dimension carbon-based nanostructures investigated in this work. (a-c) Pegylated graphene oxide (GO-PEG): (a) TEM image, (b) size distribution, (c) C1s high resolution XPS spectrum. (d-f) Carbon quantum dots (CQD) derived from citric acid/ethylenimine: (d) TEM image (inset: HRTEM image) (Reprinted with permission from Ref. [28], 2019, American Chemical Society), (e) size distribution, (f) C1s high resolution XPS spectrum.

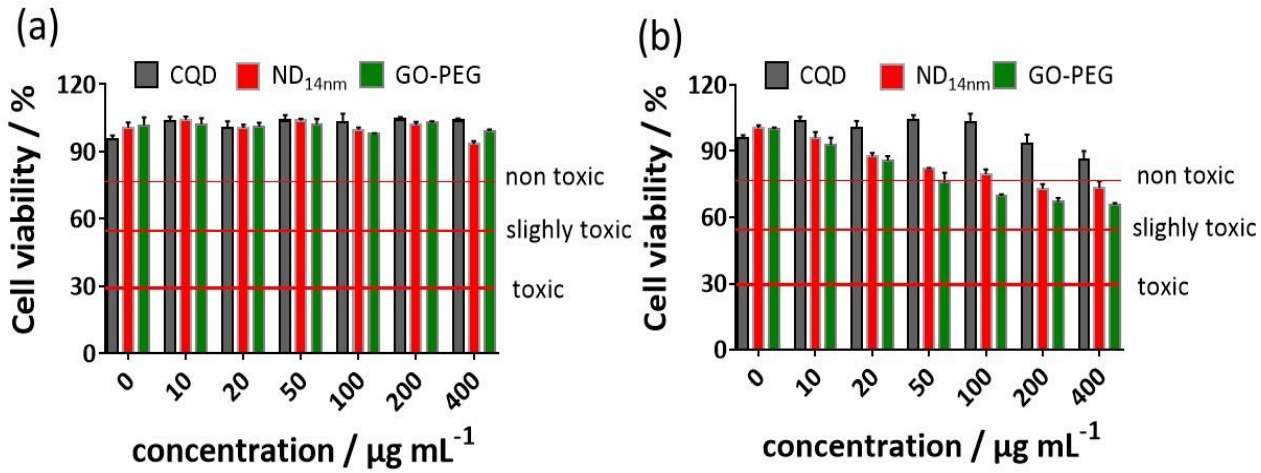


**Figure S3. Cell viability of the different nanostructures:** (**a**) HeLa cells. (**b**) Huh-7 cells. Cells were seeded in 96 wells plate at a density of $3 \times 10^4$ cells/well a day before assay. Medium was replaced with fresh medium containing particles of desired concentrations and incubated for 24 h. After, MTS assay was performed as described by company (CellTiter 96 AQueous One Solution cell proliferation assay; Promega). Firstly, cells were washed with PBS once, then, cell medium was changed with 20% of MTS solution prepared in fresh medium and incubated for 30 to 45 min. Optical density of each well was measured using a microplate reader with

absorbance detection at 490 nm. Each condition was replicated for four times and wells without particles were taken as negative control.