Electronic Supplementary Material (ESI) for Nanoscale.

Supporting Information

Surface Modification Nanoarchitectonics of Carbon Nitride Dots for Better Drug Loading and Higher Cancer Selectivity

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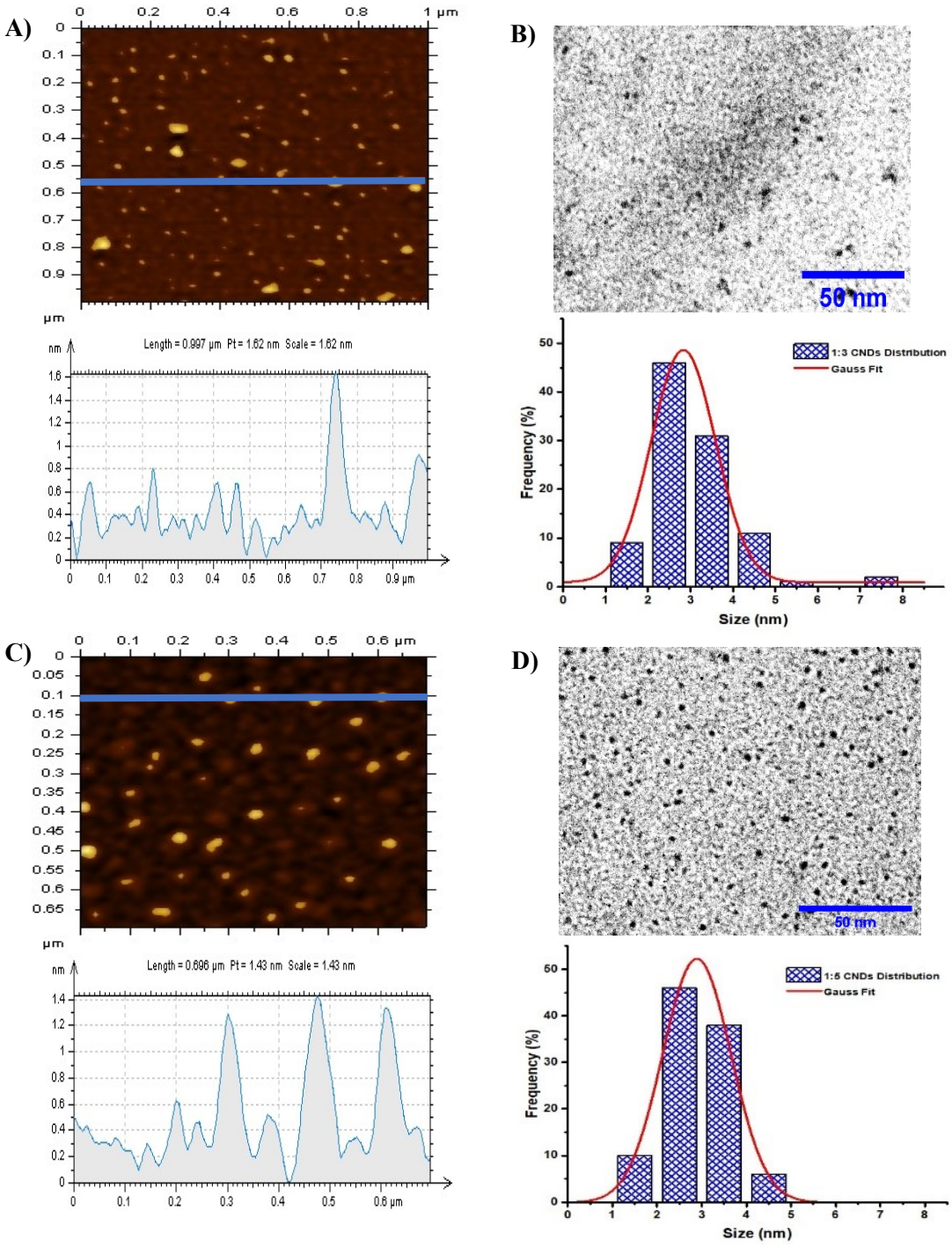
Fig. S1. A) AFM image, height profile of 1:3 CNDs, Scale = 1.62 nm. **B)** TEM image and histogram of 1:3 CNDs fitted with gaussian size distribution. Scale bar is 50 nm. (n > 100). **C)** AFM image, height profile of 1:5 CNDs, Scale = 1.4 nm **D)** TEM image and histogram of 1:5 CNDs fitted with gaussian size distribution. Scale bar is 50 nm. (n > 100).



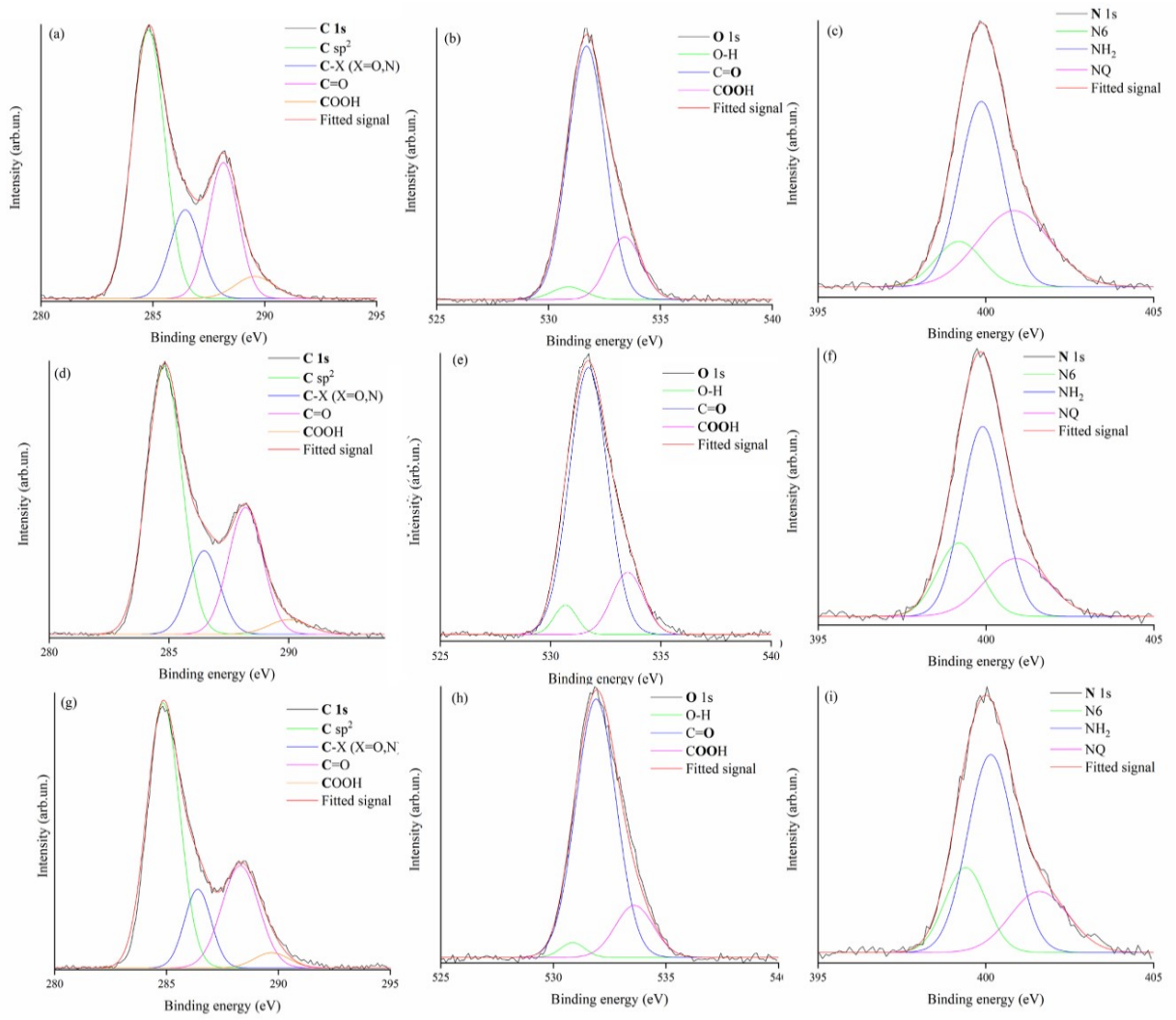


Fig. S2. XPS analysis of 1:1 (a, d, g), 1:3 (b, e, h) and 1:5 (c, f, i) CNDs.

Fig. S3. AFM images of surface modified CNDs after conjugation with doxorubicin A) 1:1 CNDs. B) 1:3 CNDs. C) 1:5 CNDs

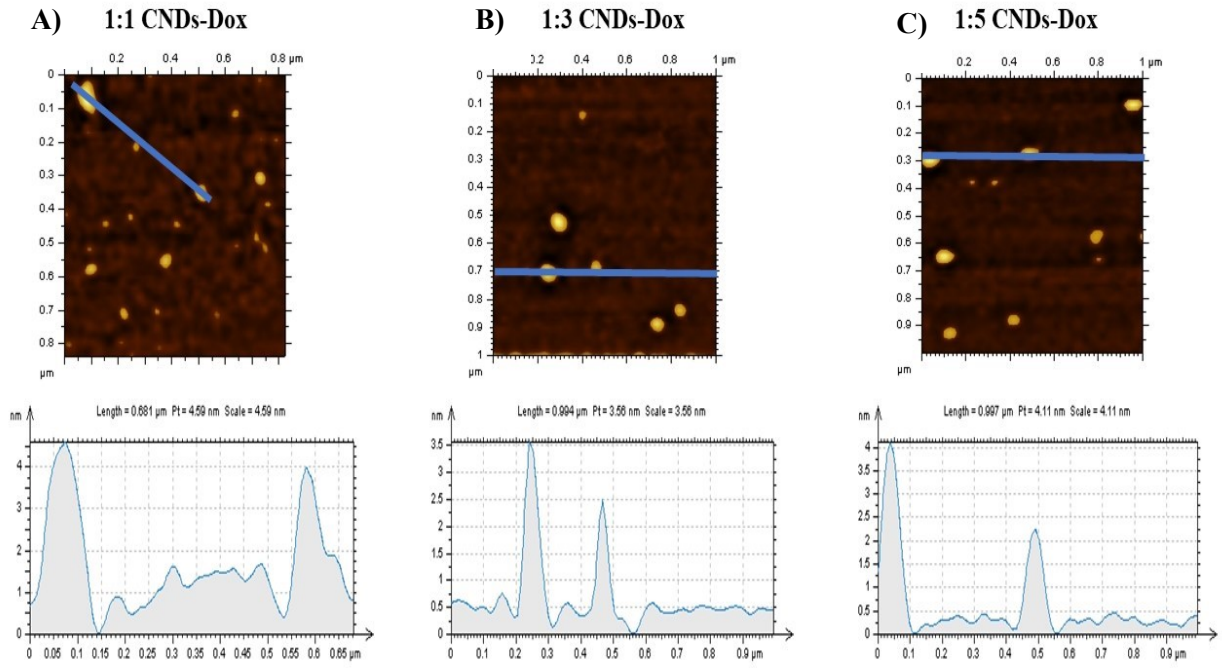
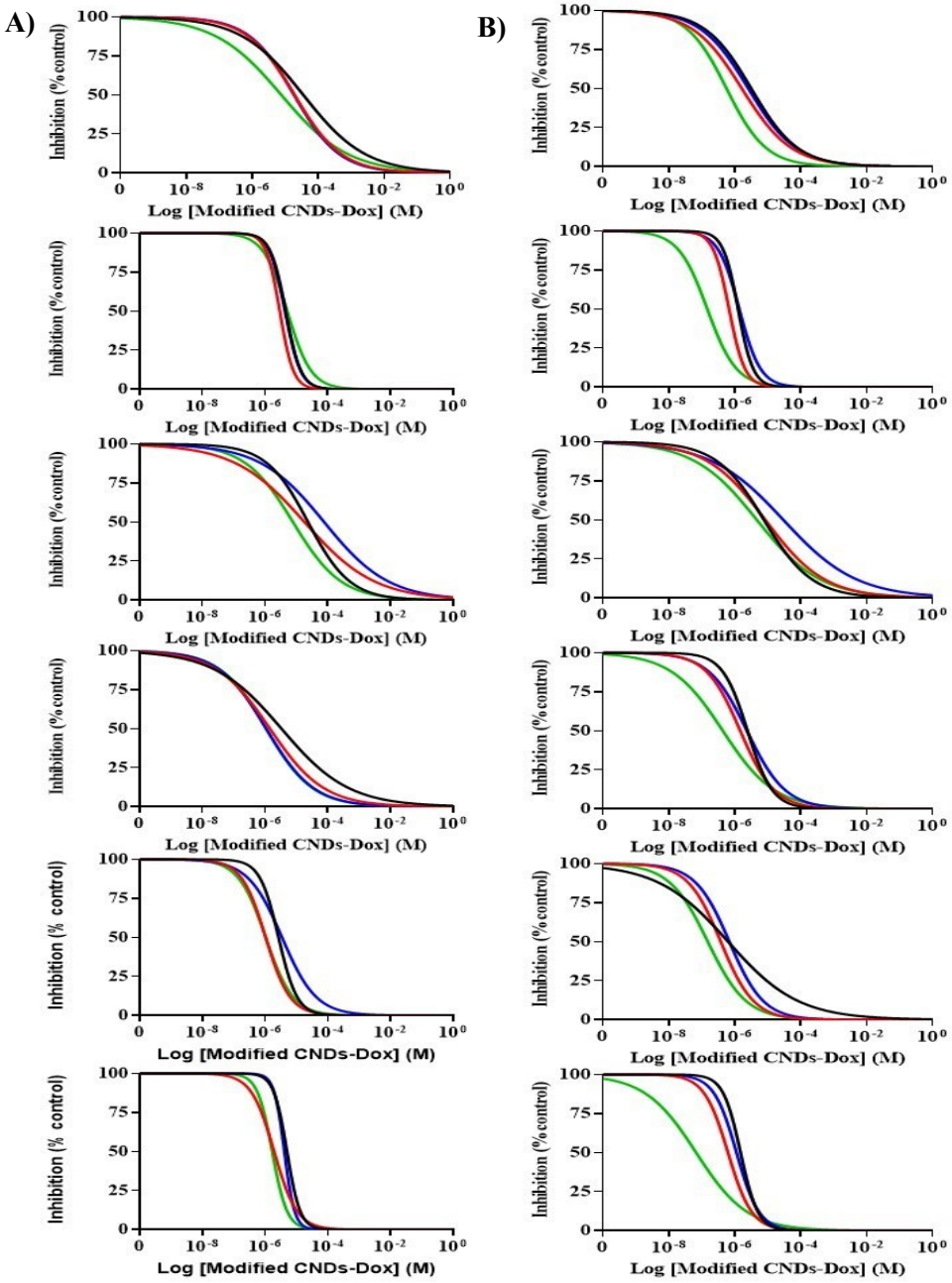
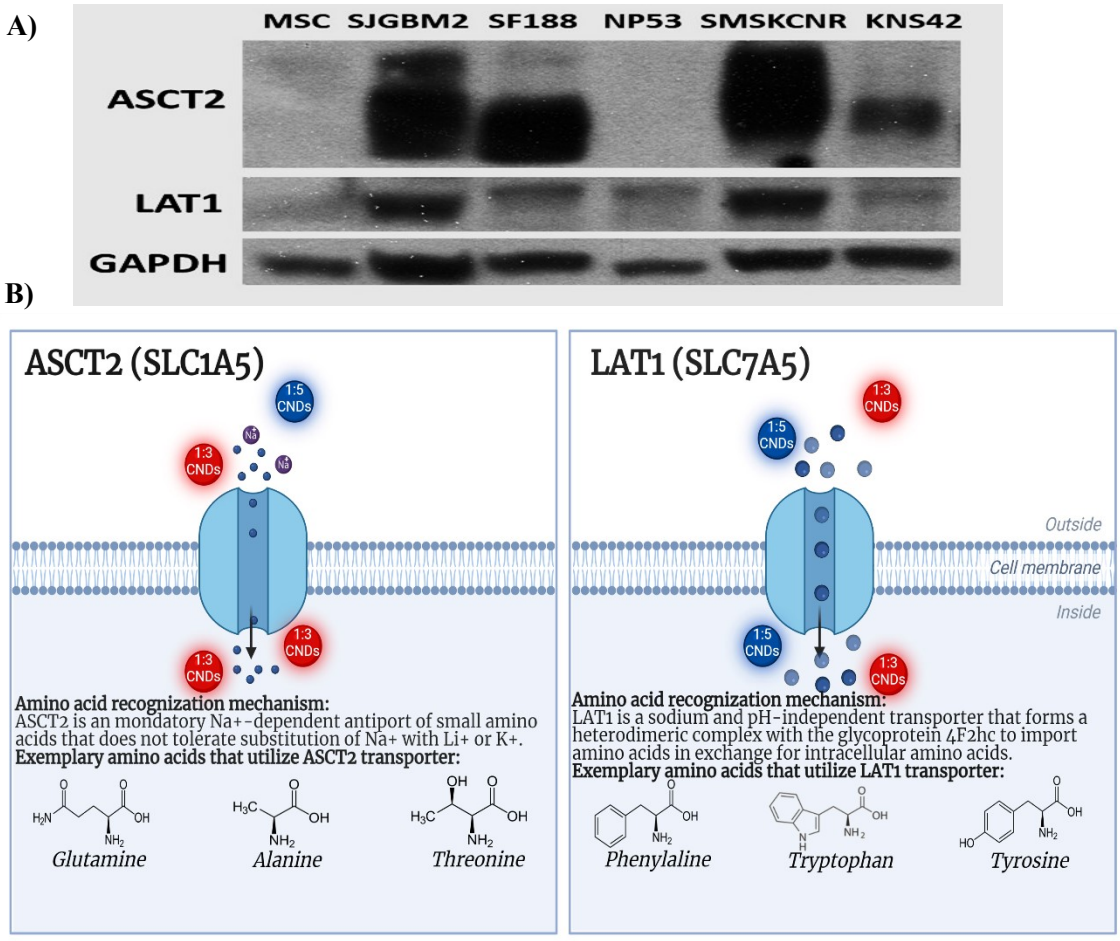


Fig. S4. A) Log graphs of 3-hour treatments for dose dependent inhibition from top to bottom; MSC, SJ-GBM2, KNS42, SMS-KCNR, NP53 and SF188 cell lines, respectively. **B)** Log graphs of 72-hour treatments for dose dependent inhibition from top to bottom; MSC, SJ-GBM2, KNS42, SMS-



KCNR, NP53 and SF188 cell lines, respectively.

Fig. S3. A) Levels of ASCT2 and LAT1 transporters on cancer cell lines as determined by Western blot analysis. GAPDH blot is shown as a loading control. **B)** Schematic illustration for cell uptake of



1:3 and 1:5 CNDs via ASCT2 and LAT1 transporters.

Fig. S4. Control group images of SJ-GBM2 (glioblastoma) cells treated with only 60mM of benser, 60mM of glutamine, 15μM of V-9302, 15mM of BCH, and 60mM of tryptophan for an hour. Scale bars are 50 μm. Excitation wavelengths: Blue, 358nm, Green, 488 nm.