

## Electronic supporting Information

### Mesoporous lipid-silica nanohybrids for folate-targeted drug-resistant ovarian cancer

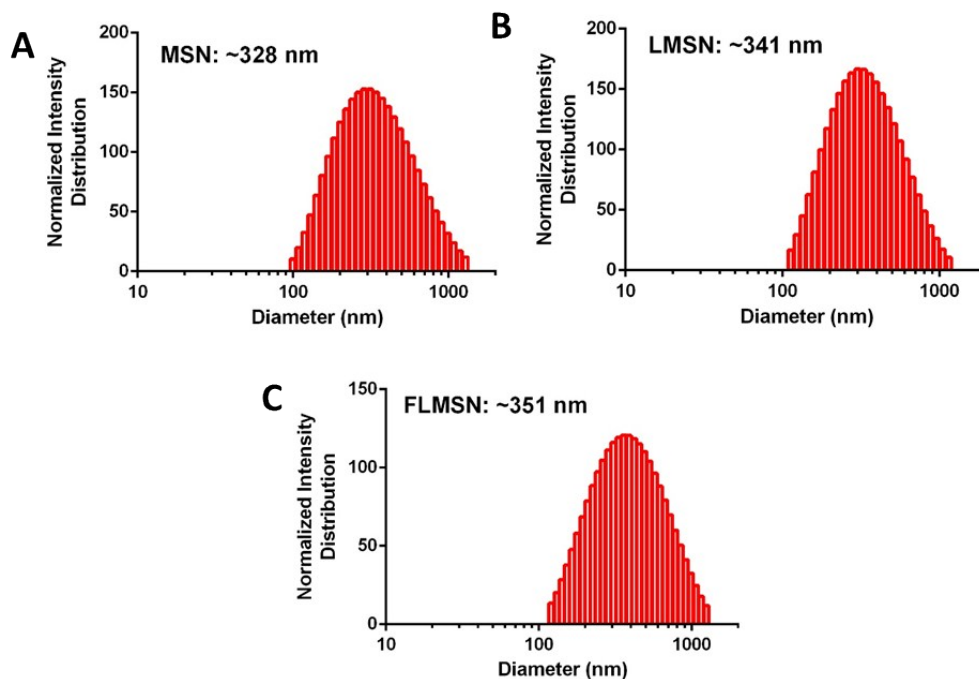
Sayan Samanta<sup>a, #</sup>, Lina Pradhan<sup>a, #</sup>, D. Bahadur<sup>a, \*</sup>

<sup>a</sup> Department of Metallurgical Engineering and Materials Science, IIT Bombay, Mumbai, 400076 India.

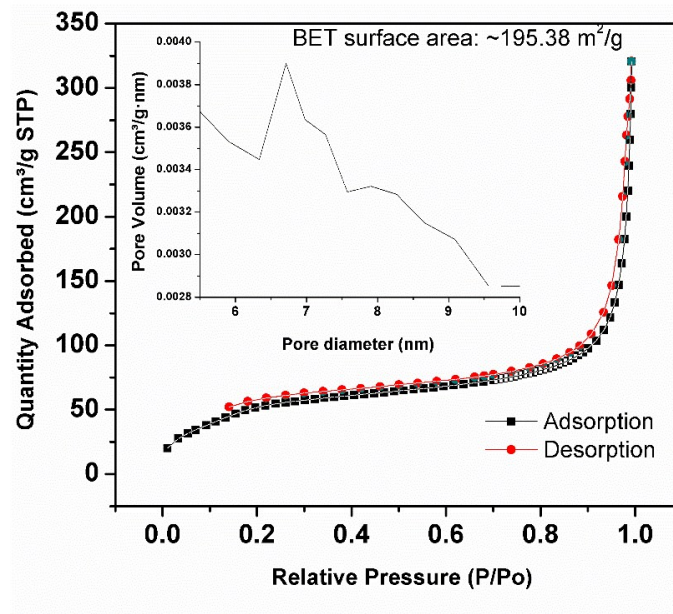
<sup>#</sup>These authors contributed equally.

\* Corresponding author, Department of Metallurgical Engineering and Materials Science, IIT Bombay, Mumbai, 400076 (India), Tel.: +91 22 2576 7632

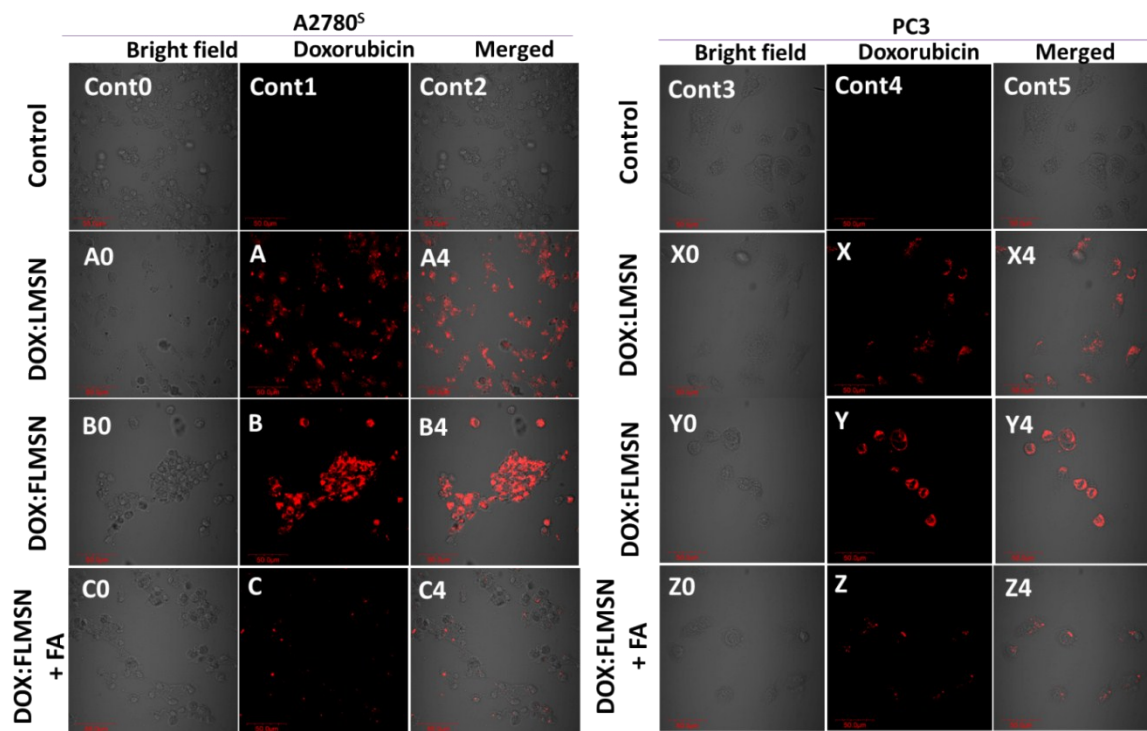
E-mail address; [dhiren@iitb.ac.in](mailto:dhiren@iitb.ac.in)



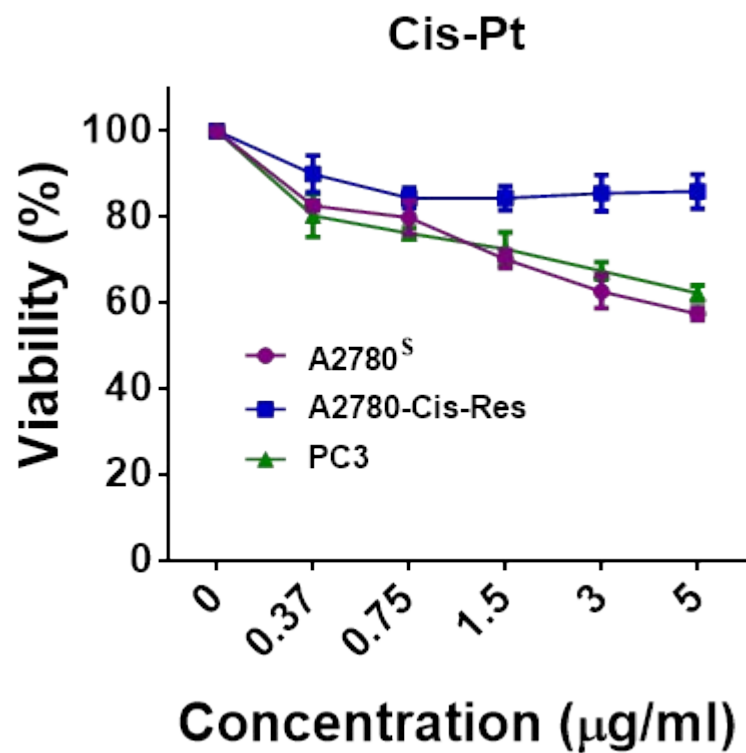
**Fig. S1.** DLS measurement of MSN, LMSN and FLMSN in water is showing mean hydrodynamic diameter of (A) ~328 nm, (B) ~341 nm and (C) ~351 nm, respectively.



**Fig. S2.** N<sub>2</sub> adsorption-desorption isotherm of MSN denoting the surface area and pore size (inset)



**Fig. S3.** Confocal images demonstrating cellular internalization of DOX in A2780<sup>S</sup> cells upon treatment (A) DOX:LMSN, (B) DOX:FLMSN, (C) DOX:FLMSN in FA saturated media. A0-C0 indicate the bright field images. A-C denotes the red fluorescence of DOX in treated cells while A4-C4 merges A0-C0 with A-C to show the internalization of DOX within the cytoplasm. Similar images in PC3 are shown upon treatment with (X) DOX:LMSN, (Y) DOX:FLMSN, (Z) DOX:FLMSN in FA saturated media. X0-Z0 indicate the bright field images. X-Z denotes the red fluorescence of DOX in treated cells while X4-Z4 merges Z0-Z0 with X-Z to show the internalization of DOX within the cytoplasm. In all cases, Cont0-Cont5 show the control (untreated) cells for A2780<sup>S</sup> (Cont0-Cont2) and PC3 (Cont3-Cont5)



**Fig. S4.** *In vitro* cytotoxicity effect of free Cisplatin (Cis-Pt) upto a conc. of 6 µg/ml against A2780<sup>S</sup>, A2780-Cis-Res and PC3 cell lines. Note that due to MDR, free Cis-Pt has negligible cytotoxicity on A2780-Cis-Res cells.