Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B

Development of new drug delivery systems based on ordered mesoporous carbons: Characterisation and cytocompatibility studies

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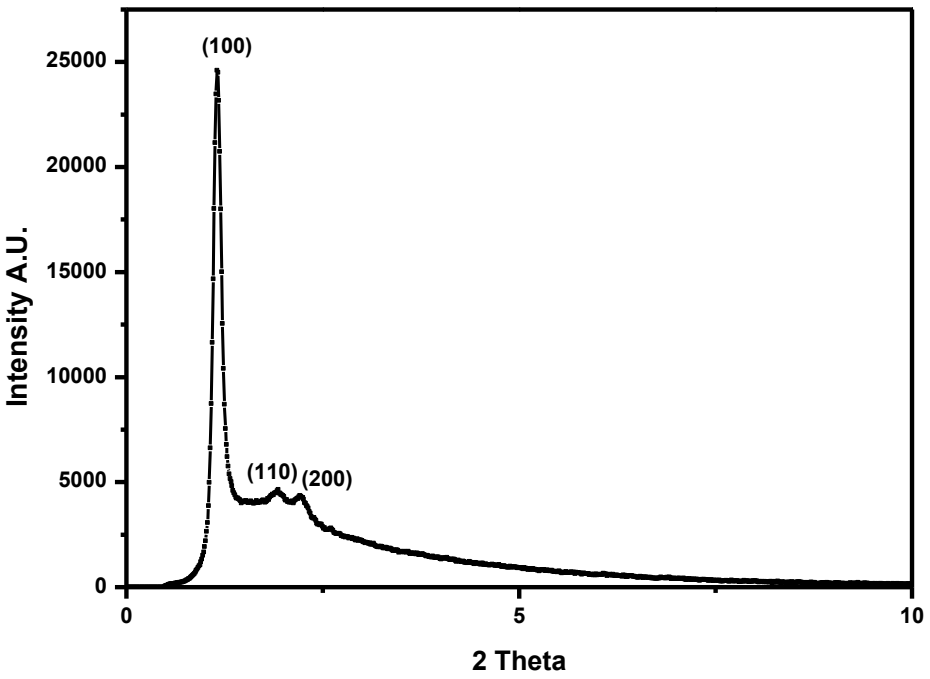


Figure S1: Small angle X-ray diffractogram of C3 carbon host.

Figure S1 shows the X-ray diffraction pattern of the pristine C3 carbon material with the characteristic peaks at 2θ = 1.14°, 1.94°, and 2.22° assigned to (10), (11), and (20) reflections, respectively, corresponding to a 2-D hexagonal space group (*p6mm*).

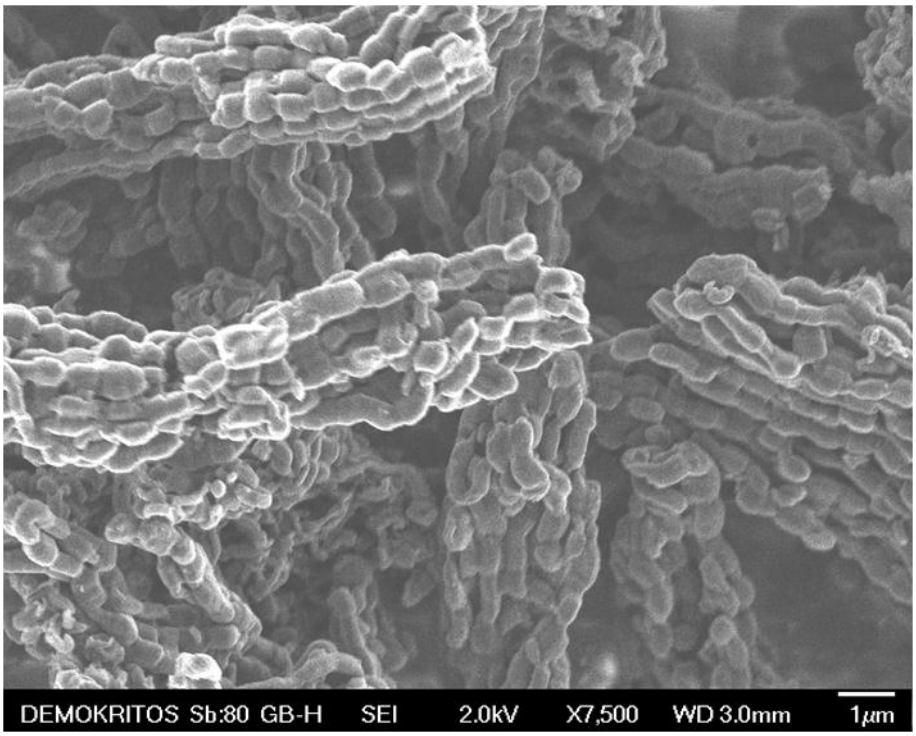
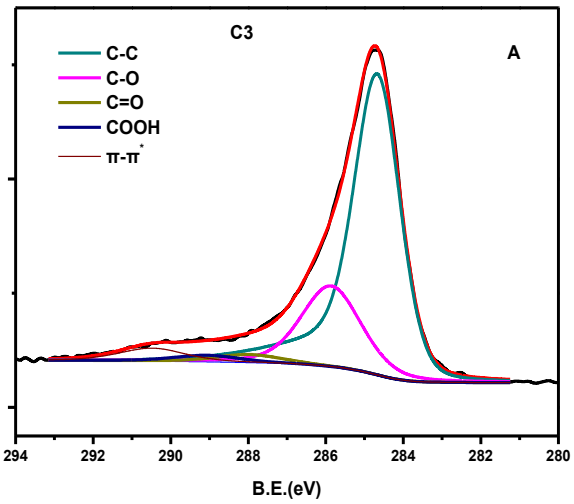
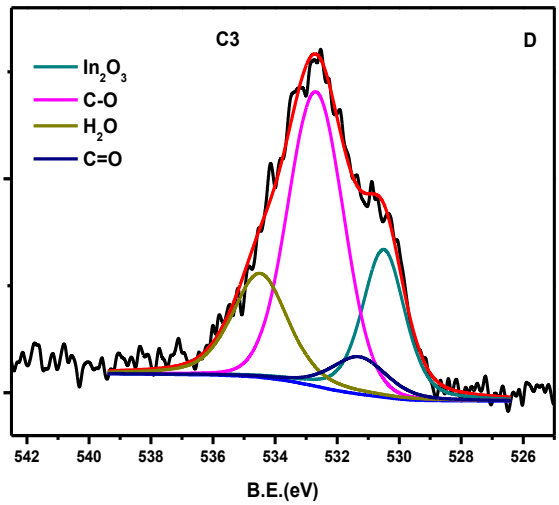
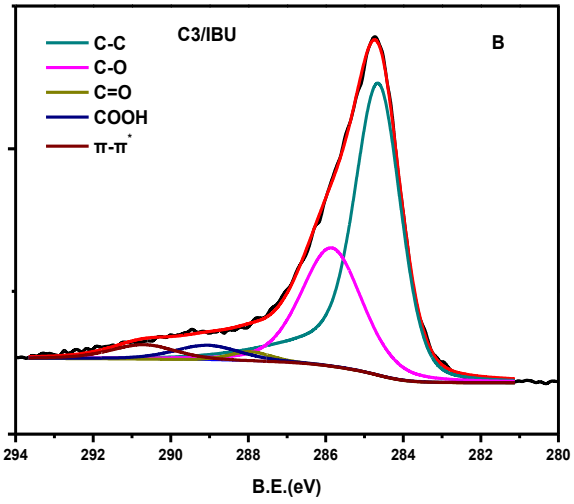
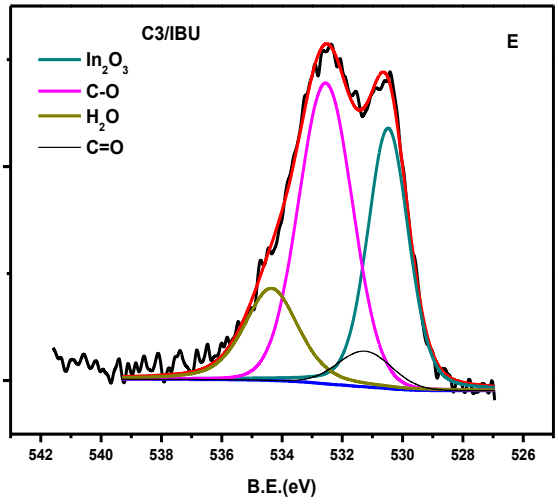


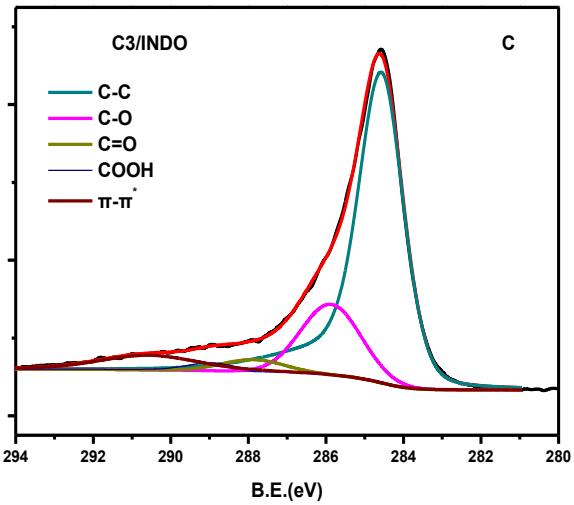
Figure S2: SEM image of the pristine C3 type carbon











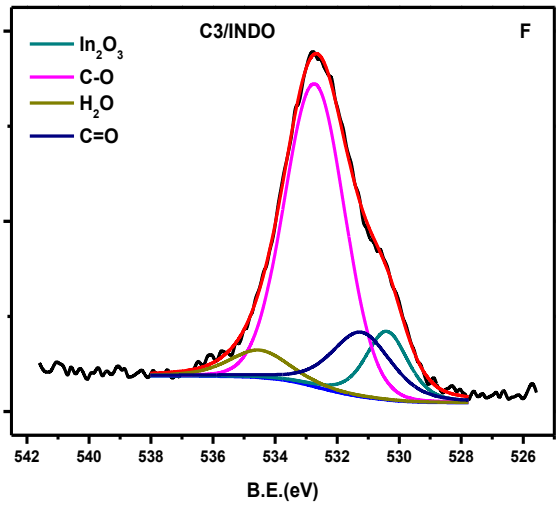


Figure S3: XP spectra of C1s peaks of (**A**) C3, (**B**) C3/IBU and (**C**) C3/INDO. XP spectra of O1s peaks of amorphous carbon (**D**) C3, (**E**) C3/IBU and (**F**) C3/INDO.

Figure S3A shows the C1s peak of the C3 carbon sample. The peak is analyzed into 5 components corresponds to (C–C) component at 284.7 ±0.1eV (benzolic groups), C-O(H) groups at 286.3±0.1eV C=O carbonyl groups at 288.0±0.1eV carboxyl groups and –COOH carbonates at 289.1eV, and a component at ~291 eV due to π-π^* transition.[1] Similarly, C1s peak of the C3/IBU and C3/INDO samples are analyzed into C-oxides components with the same characteristics (Binding Energy, Width: FWHM) as in the pristine C3 material. Figure S3C shows the C1s peak of INDO sample where the C-O component is pronounced.

Figure S3D, E & F shows the O1s photoelectron peak of the samples and the deconvolution of this peak into four components. The first one at 530.5eV binding energy is referred to Indium oxide substrate and the other three referring to O-C, O=C and $-H_2O$ (E_B 532.6, 531.3 and 534.4±0.2eV respectively).[1]

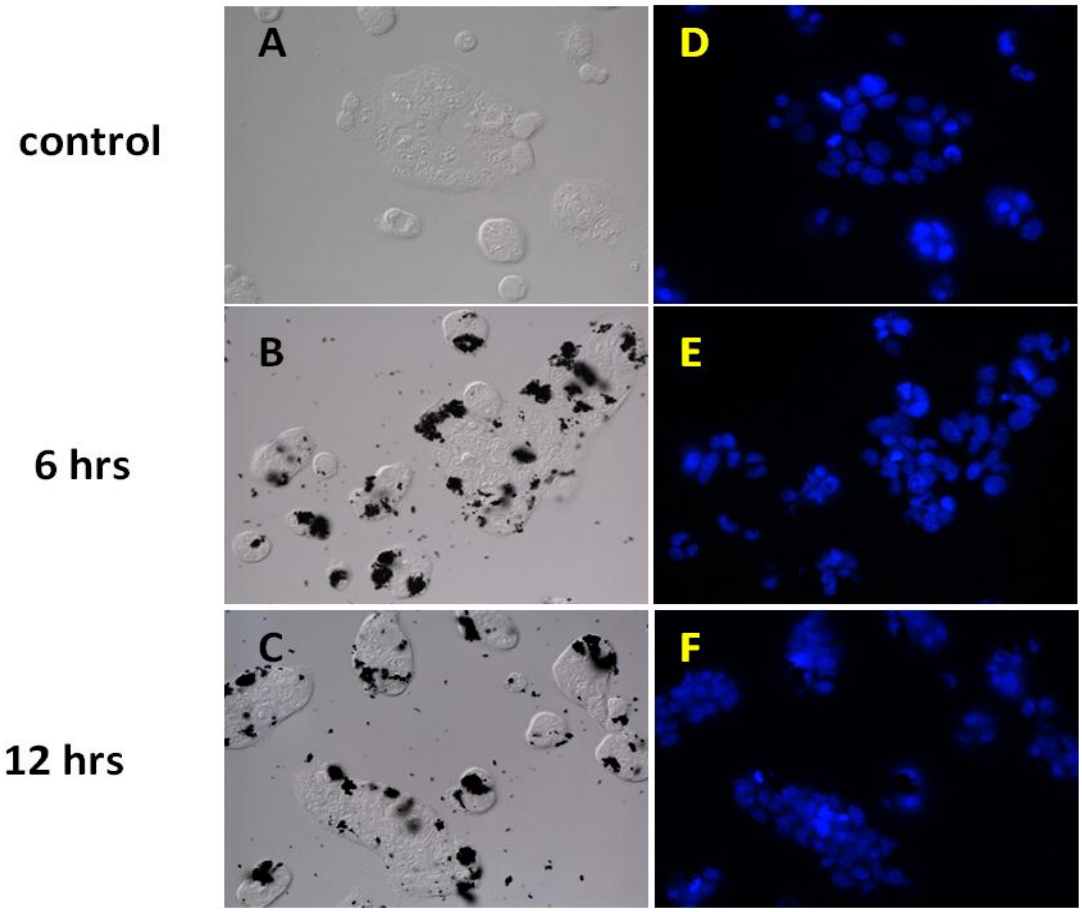


Figure S4: DIC micrographs (A,B,C) and DAPI stained nuclei (D,E,F) at different time points (concentration of C3 50 μg/mL)

References

1. Henriette Estrade-Szwarckopf, Carbon 42 (2004) 1713–1721