

Supporting information

Biodegradation of Hydroxylated Boron Nitride Nanoplatelets, Their Toxic Effect and Drug Delivery Application

Kanwal Asif^{a,b,c}, Md. Mahbubur Rahman^d, Andrea Augusto Sfriso^e, Salvatore Parisi^a, Vincenzo Canzonieri^{a,f}, Isabella Caligiuri^a, Flavio Rizzolio^{a,b}, Muhammad Adeel^{b,g*}*

^a Pathology Unit, Centro di Riferimento Oncologico di Aviano (C.R.O.) IRCCS, 33081, Aviano, Italy

^b Department of Molecular Sciences and Nanosystems, Ca' Foscari University of Venice, 30172, Venice, Italy

^c Centre for Endocrinology, Charterhouse Square, Queen Mary University of London, London EC1M 6BQ

^d Department of Energy Material Science & Engineering, Konkuk University, Chungju 27478, Republic of Korea

^e Department of Chemical and Pharmaceutical Sciences, University of Ferrara, Italy

^f Department of Medical, Surgical and Health Sciences, University of Trieste, 34149, Trieste, Italy

^g Department of Bioengineering, Royal School of Mines, Imperial College London, London, SW7 2AZ, UK

*Corresponding authors

Muhammad Adeel

Department of Bioengineering, Royal School of Mines

Imperial College London

m.adeel@imperial.ac.uk

Tel.: +39-041 2348910

Fax: +39-041 2348594

Flavio Rizzolio

Department of Molecular Sciences and Nanosystems

Ca' Foscari University of Venice

flavio.rizzolio@unive.it

Tel.: +39-041 2348910

Fax: +39-041 2348594

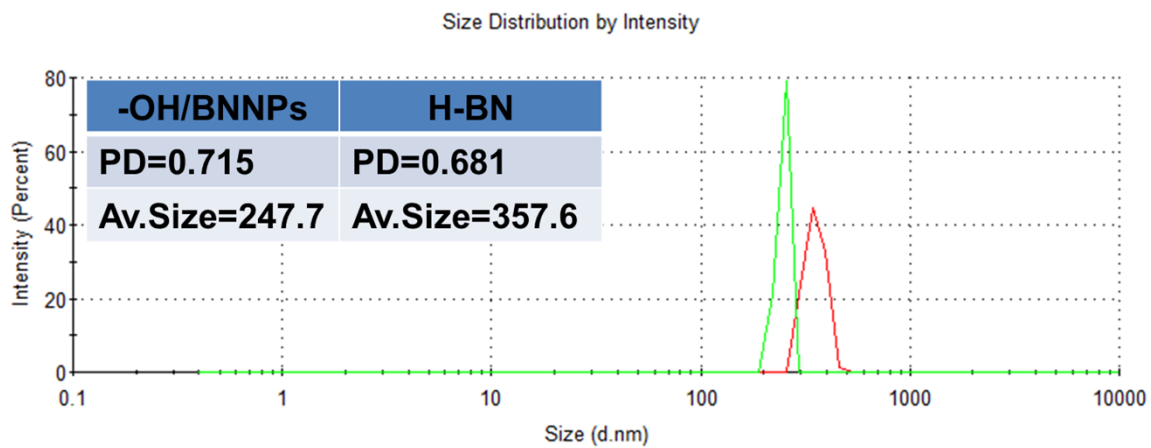


Fig. S1: DLS of pristine h-BN and -OH/BNNPs.

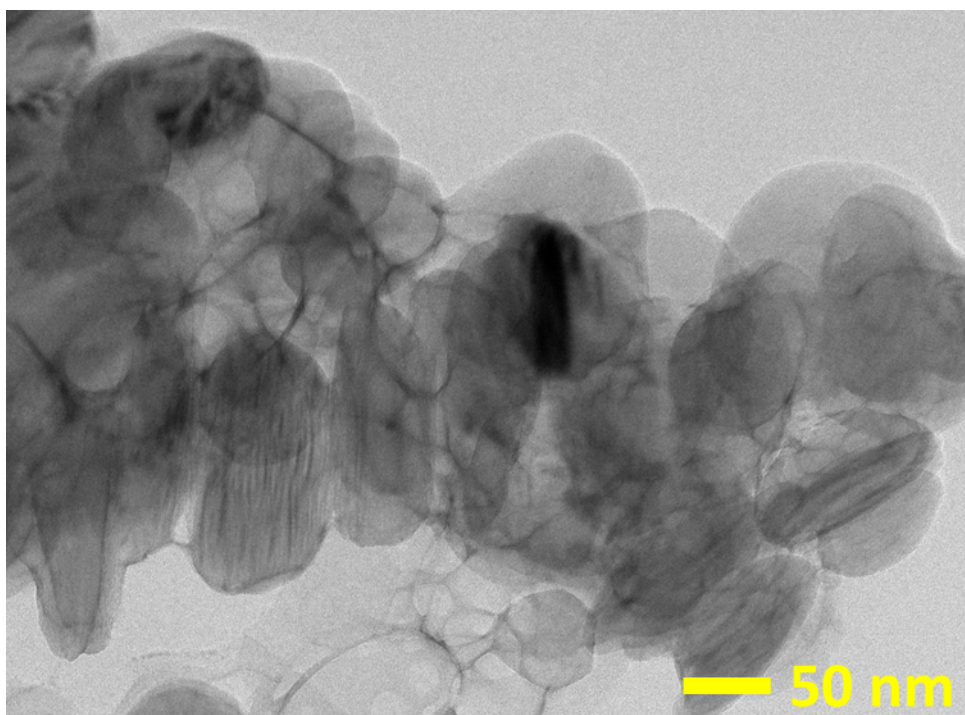


Fig. S2: HR-TEM image of the -OH/BNNPs

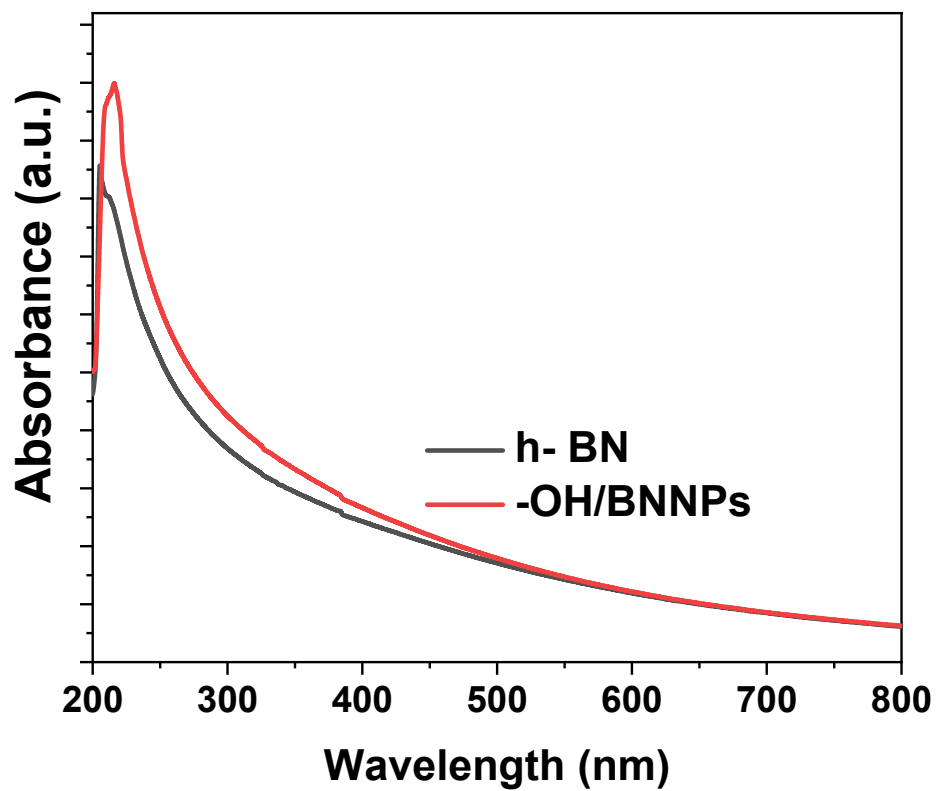


Fig. S3: UV spectra of bulk h-BN and -OH/BNNPs.

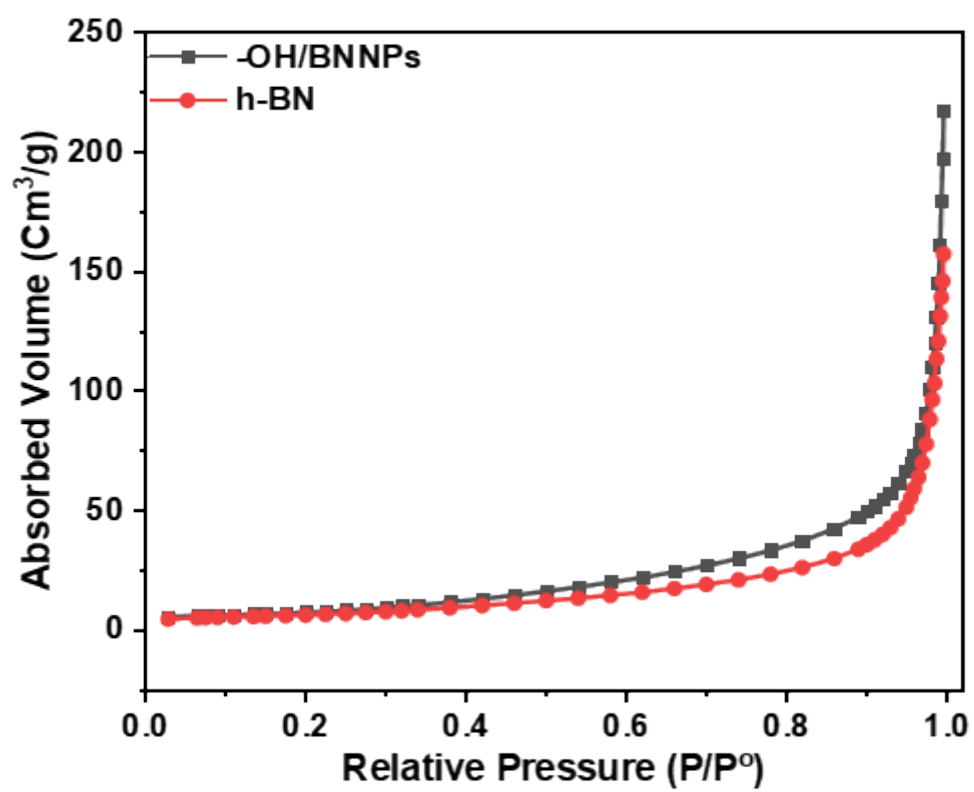


Fig. S4: BET surface area analysis: N₂-adsorption isotherm of OH/BNNPs and bulk h-BN.

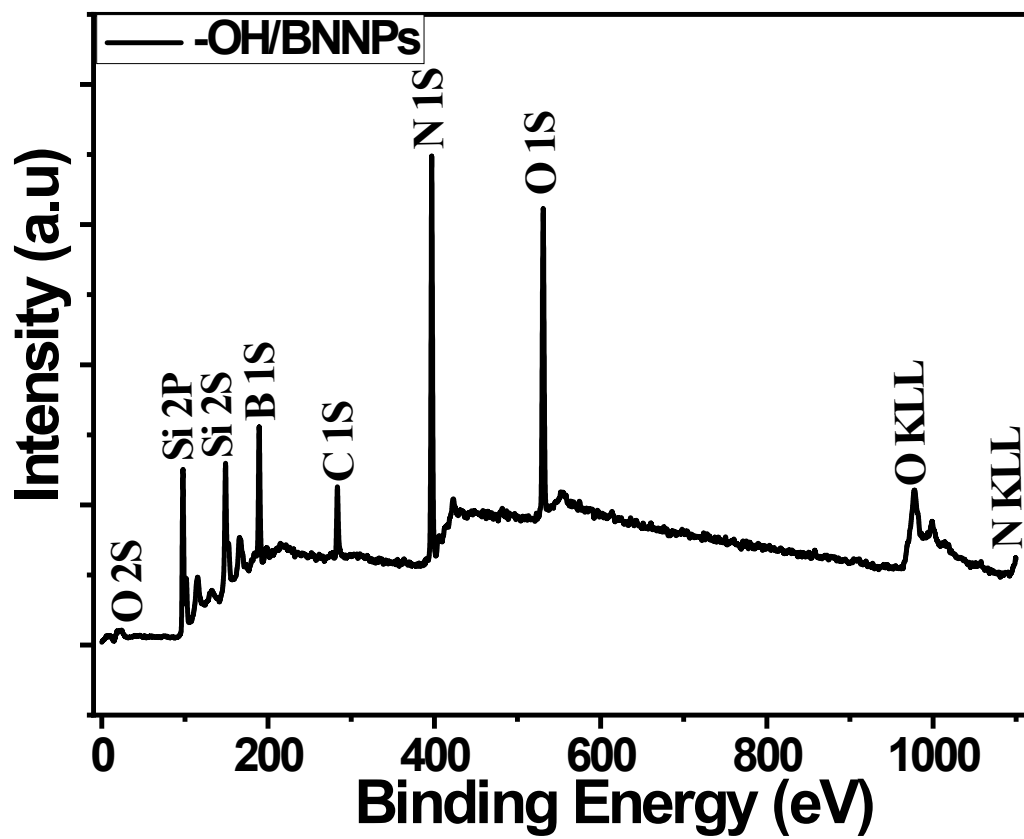


Fig. S5: Survey XPS spectra of -OH/BNNPs.

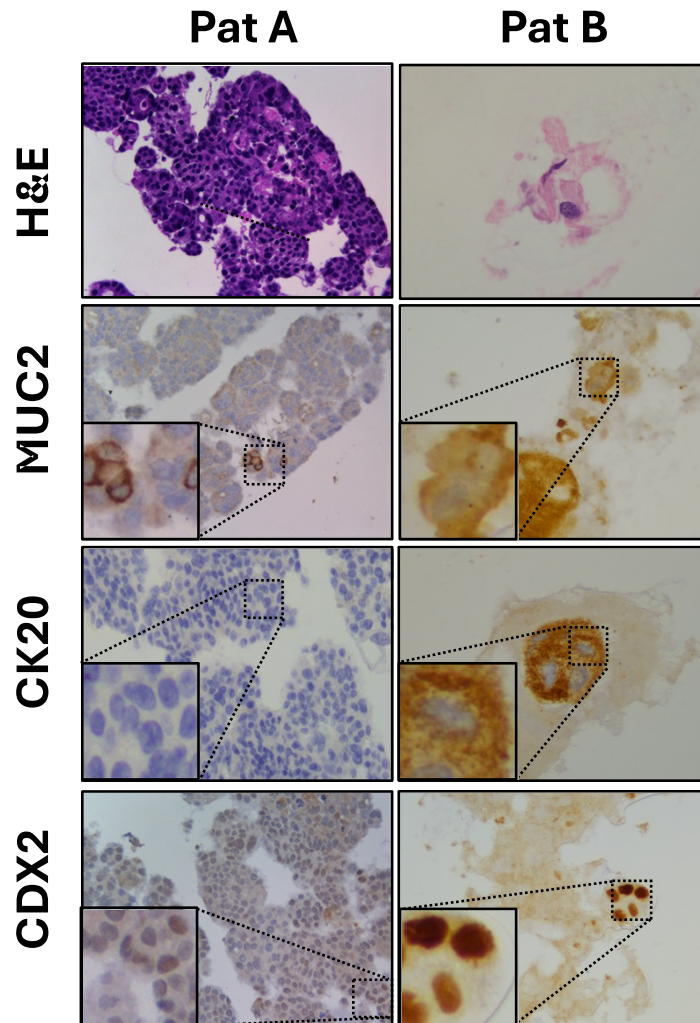


Fig. S6. Hematoxylin/eosin staining and immunohistochemistry on PDTO obtained from (PAT A and B). Muc2 (Mucin 2), CK20 (cytokeratin 20), CdX2 (Caudal-type homeobox 2) markers of colorectal cancer. IHC images were done at 20X.