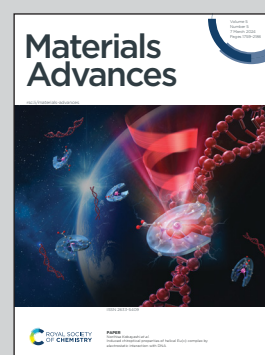


Showcasing research from Dr Jayeeta Bhaumik's laboratory, Department of Nanomaterials and Application Technology, Center of Innovative and Applied Bioprocessing, Punjab, India

A photoarchitectonic hydrogel for synergistic *in vitro* chemo-phototherapy of breast cancer

Preparation of Doxorubicin (Dox) conjugated on carbon dots and zinc phthalocyanine (ZnPc) incorporated hydrogel using PEGMA and PAA polymer was accomplished. The combinatorial chemo-phototherapeutic hydrogel is capable of releasing chemo and phototherapeutic drugs (Dox and ZnPc) in response to pH and emits reactive oxygen species when exposed to laser light at the breast cancer cell location. This research outcome indicates that the photoarchitectonic hydrogel has the potential to undergo synergistic chemo- and photodynamic therapy for cancer treatment.

As featured in:



See Jayeeta Bhaumik *et al.*,
Mater. Adv., 2024, 5, 1903.