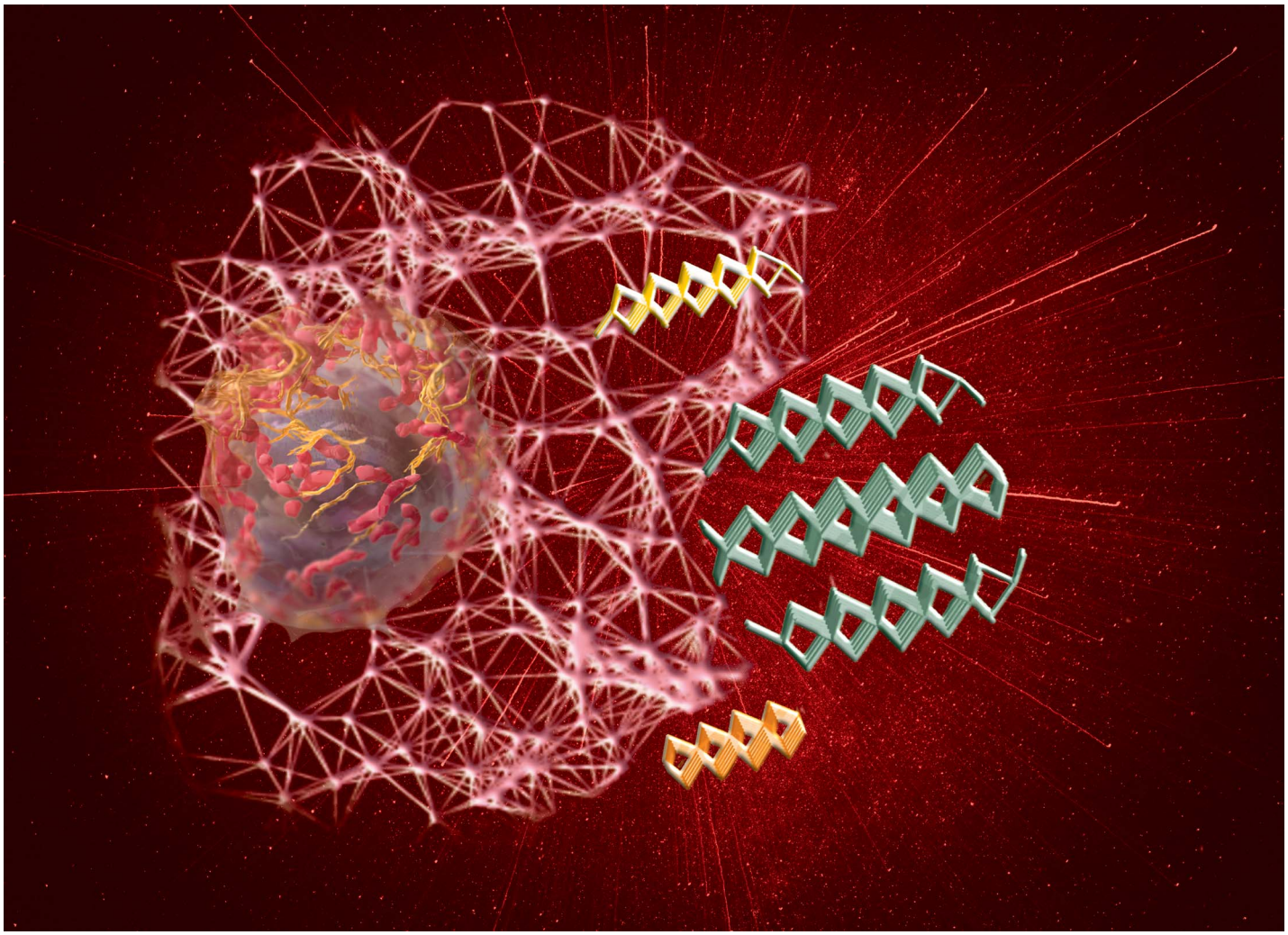
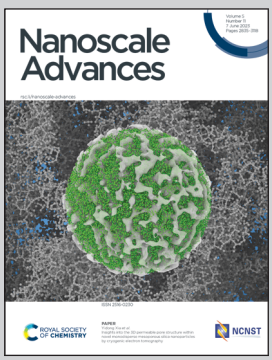


Showcasing research from Dr Mistrik and Dr Krbal's laboratories, Center of Materials and Nanotechnologies, Faculty of Chemical Technology, University of Pardubice, Pardubice, Czech Republic.

Giant change of MoS_2 optical properties along amorphous-crystalline transition: broadband spectroscopic study including the NIR therapeutic window

The transition from the MoS_2 mixed 1T′@2H local order in the amorphous phase toward the long-range 2H order in the polycrystalline phase, is systematically correlated with the evolution of MoS_2 optical properties. The early stage of a few-layer 2H ordering toward the 2H bulk-like polycrystalline structure during annealing, is evidenced through the energy shift of MoS_2 prominent excitonic peaks. Apart from discovering a considerable change in optical response between metallic and semiconducting MoS_2 phases, light–heat conversion in the NIR therapeutic window revealed the potential of amorphous MoS_2 as an agent for photothermal therapy.

As featured in:



See Jan Mistrik *et al.*, *Nanoscale Adv.*, 2023, **5**, 2911.

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