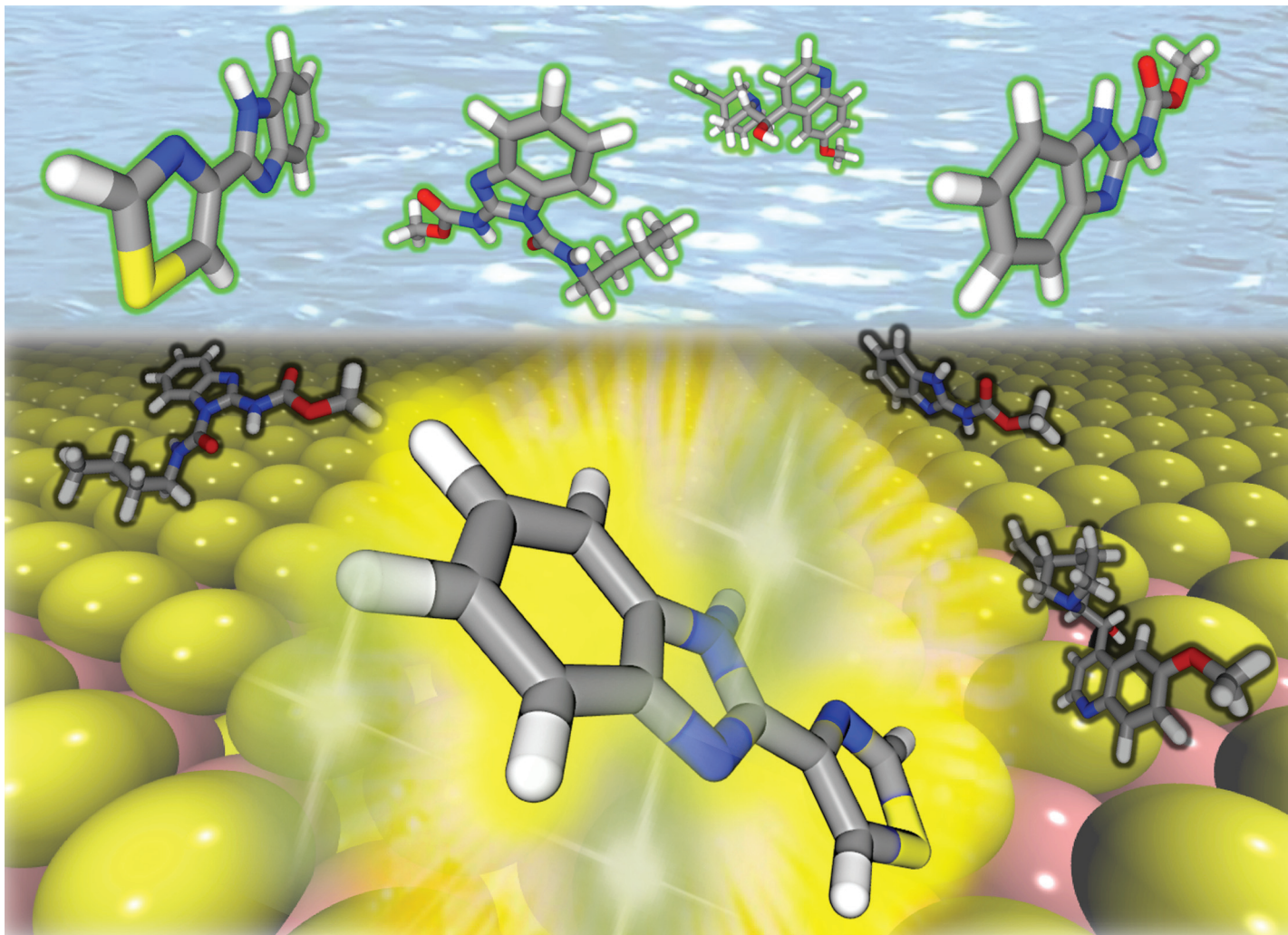


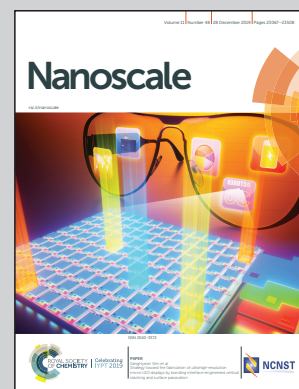


Showcasing research from the Institute of Materials Science (CSIC) and Analytical Chemistry and Instrumental Analysis Department (UAM), Madrid, Spain.

Fluorescence enhancement of fungicide thiabendazole by van der Waals interaction with transition metal dichalcogenide nanosheets for highly specific sensors

DFT calculations allow rationalization of the surprising fluorescence enhancement that thiabendazole exhibits because of its interaction with transition metal dichalcogenides (TMDs). This effect, non-observed for other fungicides nor when thiabendazole interacts with other nanomaterials, is related to a small molecular distortion after the non-covalent adsorption of thiabendazole on TMDs, inhibiting the intramolecular rotation between the benzimidazole and thiazole groups. Based on this effect, a sensitive and selective method for thiabendazole analysis in river water is developed.

As featured in:



See Carmen Quintana *et al.*,
Nanoscale, 2019, 11, 23156.