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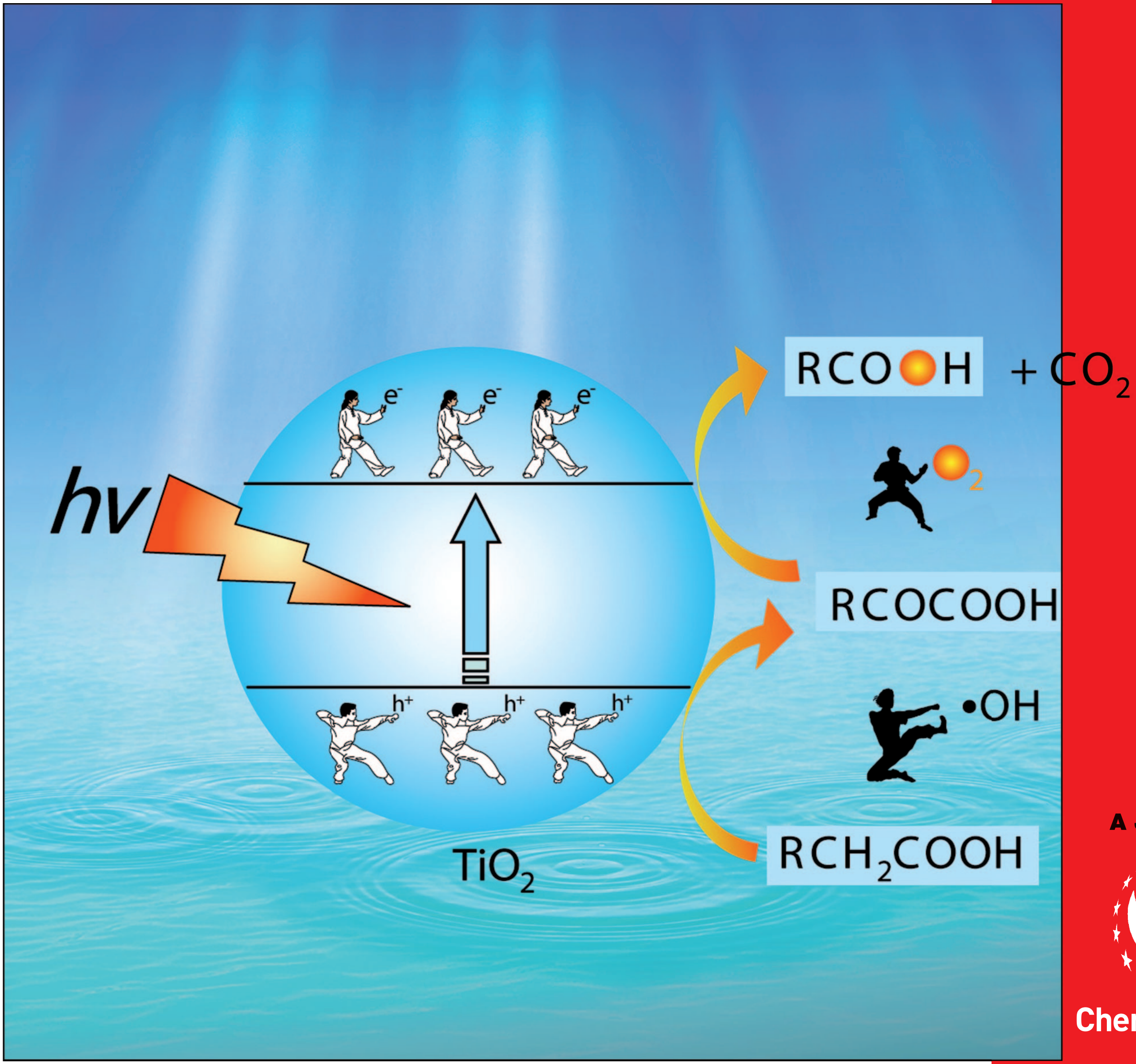

A Journal of ChemPubSoc Europe

Concept
Recycling Functional Colloids and Nanoparticles
J. Eastoe et al.

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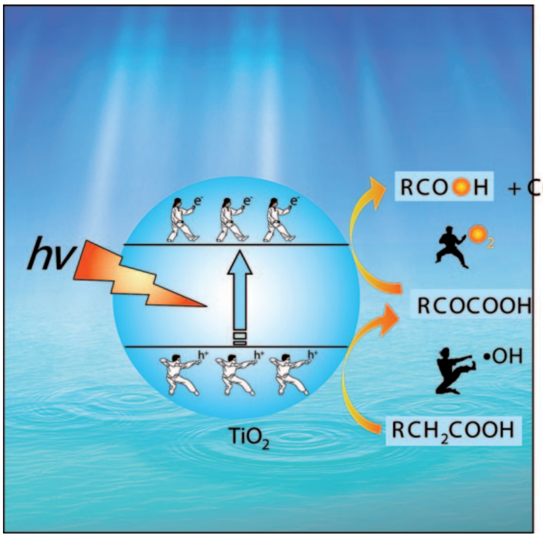
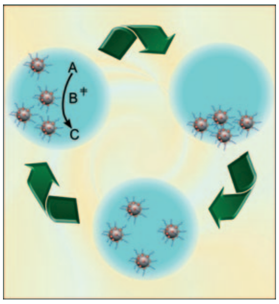
$^{18}O_2$ isotopic labeling studies…

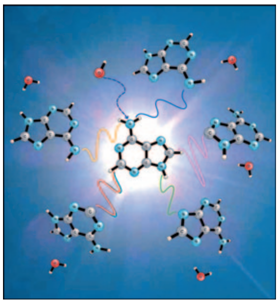
… show that O_2 is able to accomplish the decarboxylation of saturated carboxylic acids through a previously unexplored pathway with TiO_2 as a photocatalyst. In their Full Paper on page 11859 ff., J. Zhao, W. Ma et al. describe the two major tandem steps of this reaction. In the first step the initial acid is oxidized to an active α-keto acid intermediate, and in the second step this α-keto acid is decarboxylated to a shorter-chain acid with the release of one CO_2 molecule.

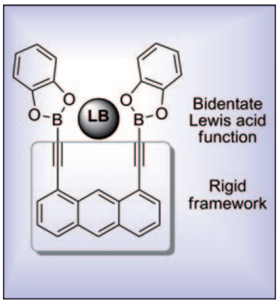




Green Chemistry
In their Concept article on page 11784 ff., J. Eastoe et al. describe recent advances in strategies for recycling and reusing functional nanomaterials. The application of magnetic fields, pH and thermoresponsive materials, molecular antisolvents, or nanostructured colloidal solvents provide effective and efficient methodologies for recycling nanoparticles without significant costs, time demands, or energy consumption.

Radical Reactions
In their Full Paper on page 11848ff., H. F. Schaefer III et al. investigate six dehydrogenation pathways for adenine attacked by a hydroxyl radical. Density functional calculations at the B3LYP/DZP++ level of theory revealed that the N_6-position is the most favorable for the OH radical attack, leading to the formation of N_6-dehydrogenated adenine radicals.





Poly-Lewis Acids
Alkane elimination is a process efficient enough to be employed to prepare dimetallated alkynyl complexes of Group 13 elements, that is, to affect both subsequent metalation steps in reasonable to high yields. The new poly-Lewis acids, with a 1,8-diethynylanthracenediyl backbone, form dimers with different types of molecular structures. For more details, see the Full Paper by N. W. Mitzel et al. on page 11906 ff.

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