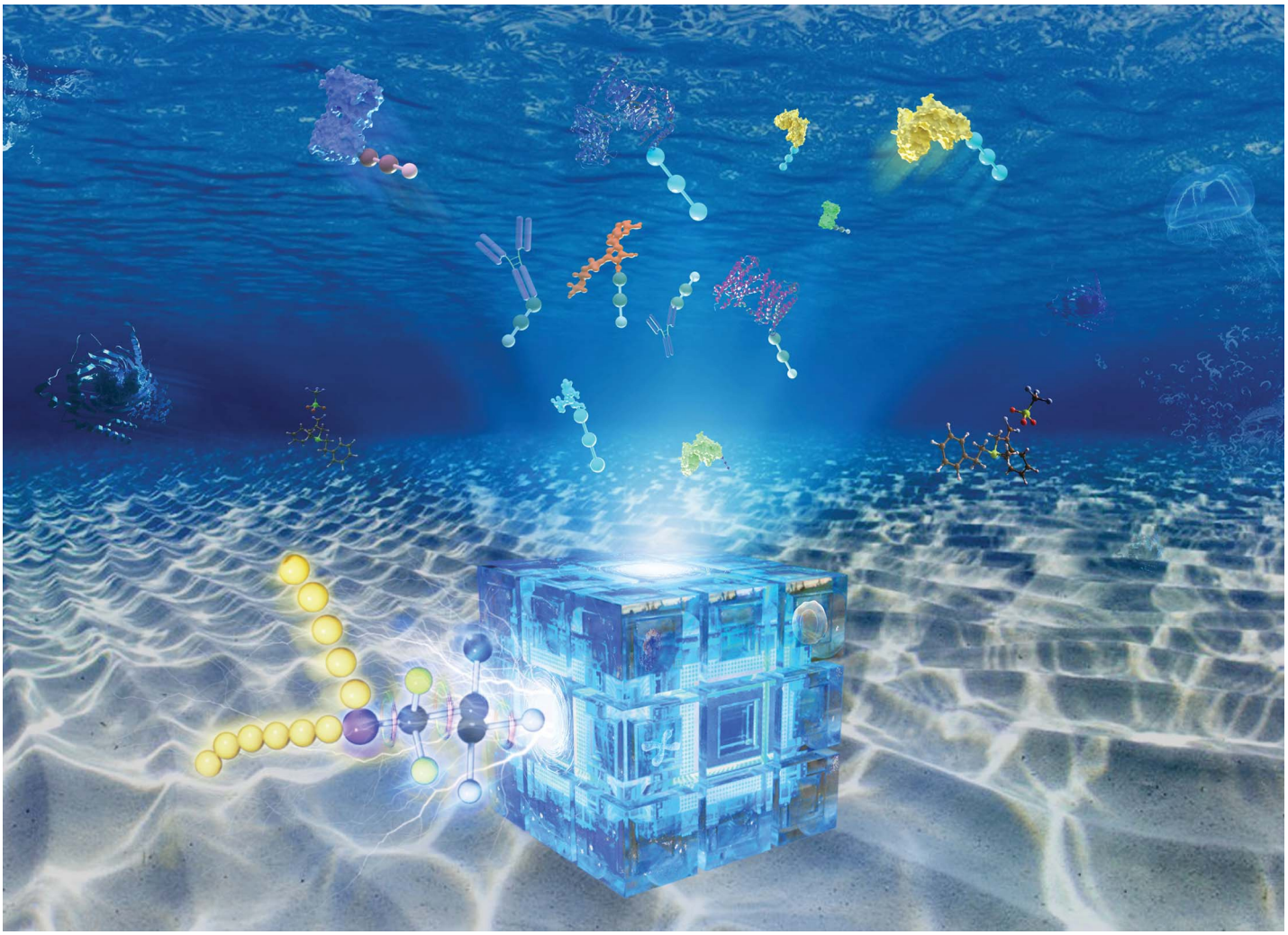

Showcasing research from Professor Zhang's laboratory, Key Laboratory of Fluorine and Nitrogen Chemistry and Advanced Materials, Shanghai Institute of Organic Chemistry, University of Chinese Academy of Sciences, Chinese Academy of Sciences, Shanghai, China.

Site-selective *S-gem*-difluoroallylation of unprotected peptides with 3,3-difluoroallyl sulfonium salts

Bench-stable 3,3-difluoroallyl sulfonium salts (DFASs), featuring tunable activity and their editable C-β and *gem*-difluoroallyl group, proved to be versatile fluoroalkylating reagents for site-selective *S-gem*-difluoroallylation of cysteine residues in unprotected peptides. The reaction proceeds with high efficiency under mild conditions. Various protected/unprotected peptides, especially bioactive peptides, are site-selectively *S-gem*-difluoroallylated. The newly added *gem*-difluoroallyl group and other functional groups derived from C-β of DFASs are poised for ligation with bio-functional groups through click and radical chemistry, indicating their great potential application in medicinal chemistry and chemical biology.

As featured in:

See Xingang Zhang *et al.*, *Chem. Sci.*, 2024, **15**, 10002.

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