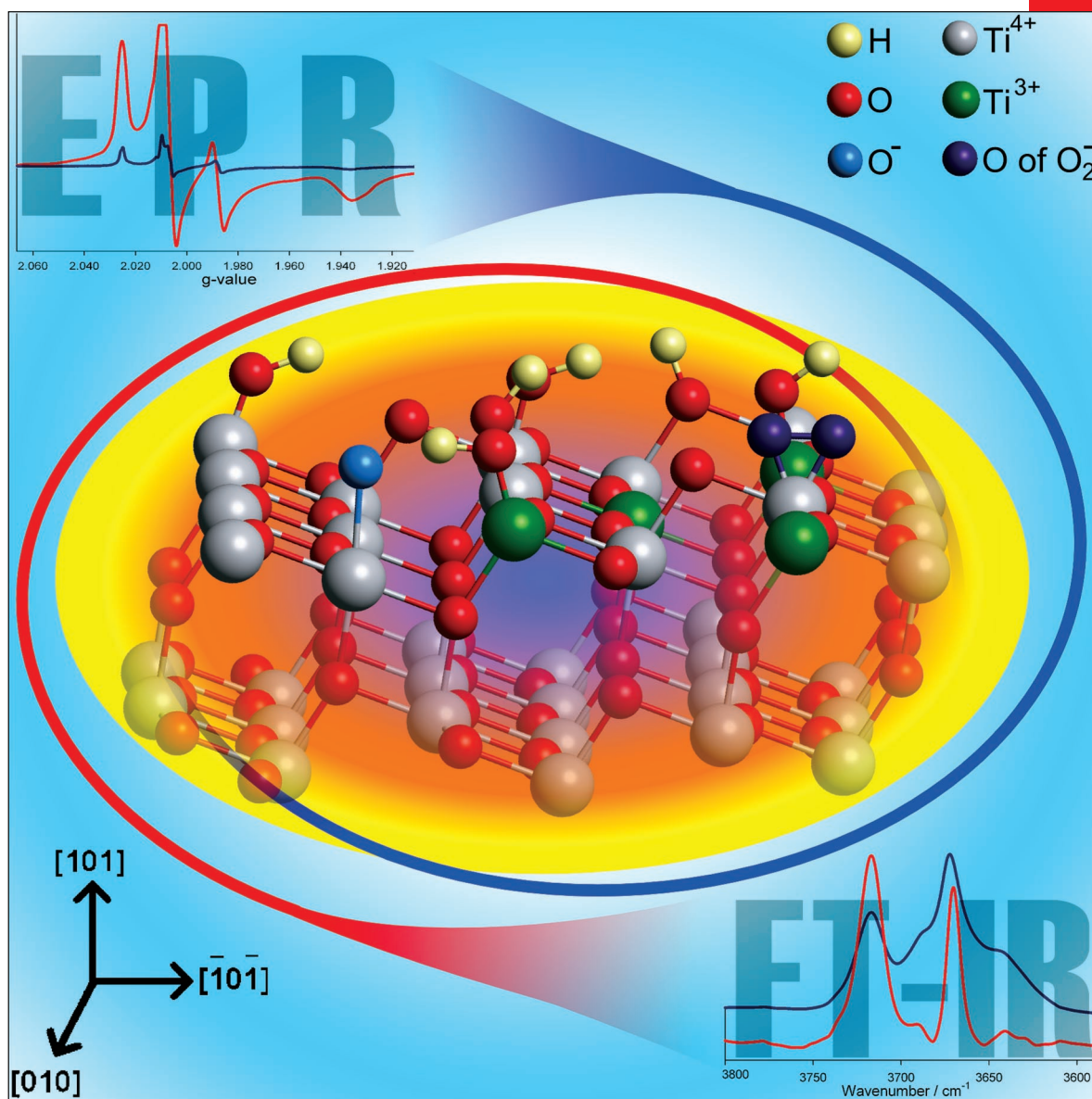


# CHEMISTRY

## A EUROPEAN JOURNAL

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### Concept

New Carbon Materials: Biological Applications  
of Functionalized Nanodiamond Materials

A. Krueger

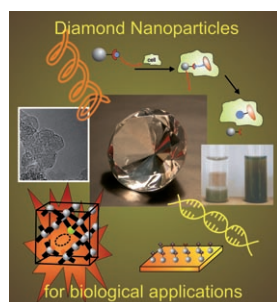
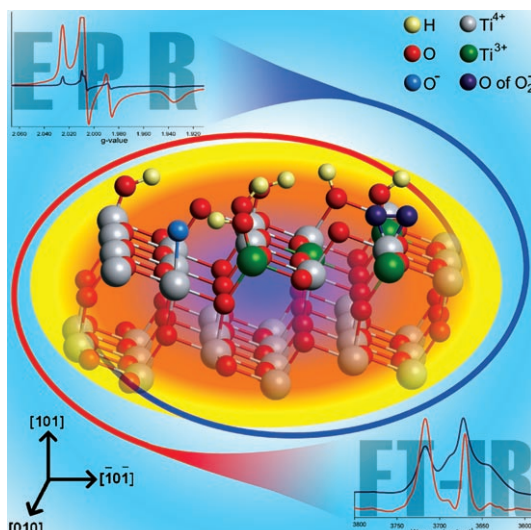
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## Defect sites...

... on the  $\text{TiO}_2$  (anatase) surface and their formation were modeled on the basis of EPR and IR spectra. In their Full Paper on page 1402 ff., B. C. Gates et al. describe how the sites incorporate  $\text{Ti}^{3+}$  with  $\text{O}_2^-$  and  $\text{O}^-$  and are marked by their OH groups. They were investigated with a novel probe molecule,  $[\text{Re}_3(\text{CO})_{12}\text{H}_3]$ , which reacts preferentially with  $\text{Ti}^{3+}$  defect sites, becoming deprotonated, removing most of the oxygen radicals, and healing the defects.

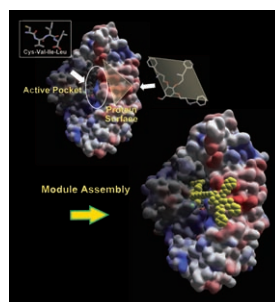


### Nanodiamond Materials

In the Concept article on page 1382 ff., A. Krueger describes new developments in the chemistry and applications of nanodiamond materials. It can be obtained in bulk scale and can easily be purified. It possesses a variety of surface functionalities that can be used to adsorb or graft functional groups or much more complex moieties, for example, proteins or DNA, onto the diamond surface.

### Protein-Surface Targeting

In their Full Paper on page 1392 ff., J. Ohkanda and co-workers describe how bivalent inhibitors based on geranylgeranyltransferase I were designed by a module-assembly strategy for protein exterior surface recognition.



### Chirality Counts

In their Full Paper on page 1472 ff., R. W. Saalfrank, A. Scheurer et al. describe how starting from enantiomerically pure ligands  $\text{H}_2\text{L}^{(S,S)}$ , the efficient synthesis of three different types of polynuclear complexes through diastereoselective self-organization is achieved.

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