G. JARRE, Y. LIANG, P. BETZ, D. LANG, A. KRUEGER\* (JULIUS-MAXIMILIANS-UNIVERSITÄT, WÜRZBURG, GERMANY)

Playing the Surface Game – Diels–Alder Reactions on Diamond Nanoparticles *Chem. Commun.* **2011**, *47*, 544-546.

## 'Hard-Core' Diels-Alder

**Significance:** A Diels–Alder reaction is used for the first time to functionalize the surface of diamond nanoparticles. Direct C–C coupling is achieved by reacting o-quinodimethanes with  $\pi$ -bonds on the surface of thermally annealed nanodiamond. Increasing the annealing temperature and introducing electron-withdrawing groups to the diene both lead to higher surface loading.

**Comment:** This method offers facile modification of surface properties of nanodiamond. The arylated particles are very stable and can be further decorated by electrophilic aromatic substitution. For instance, 4-carboxy-o-quinodimethane-functionalized particles **2b** are soluble in water and PBS buffer, while Oregon Green tagged conjugate **5** can be purified by conventional column chromatography.

 $\begin{array}{lll} \textbf{SYNFACTS Contributors:} & Timothy \ M. \ Swager, \ Shuang \ Liu \\ Synfacts \ 2011, \ 3,0265-0265 & Published \ online: \ 16.02.2011 \\ \textbf{D0I:} \ 10.1055/s-0030-1259435; \ \textbf{Reg-No.:} \ S00411SF \\ \end{array}$ 

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