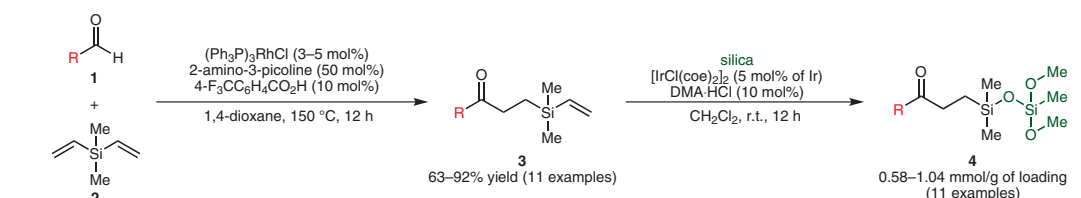
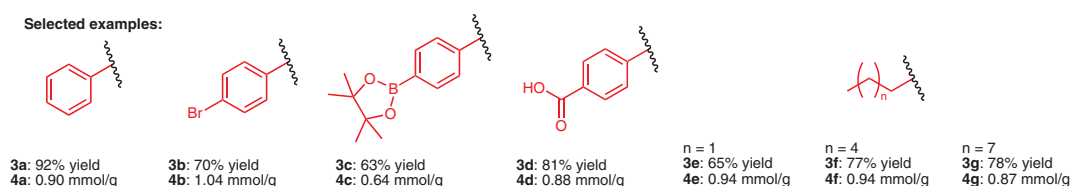


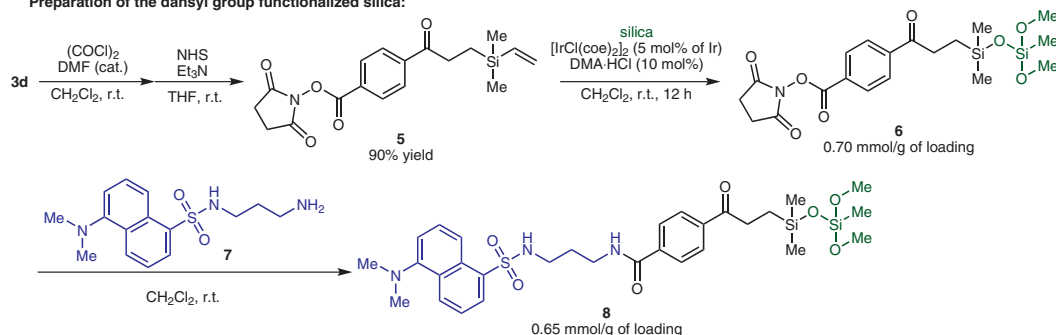
Immobilization of Organic Functional Groups onto Silica



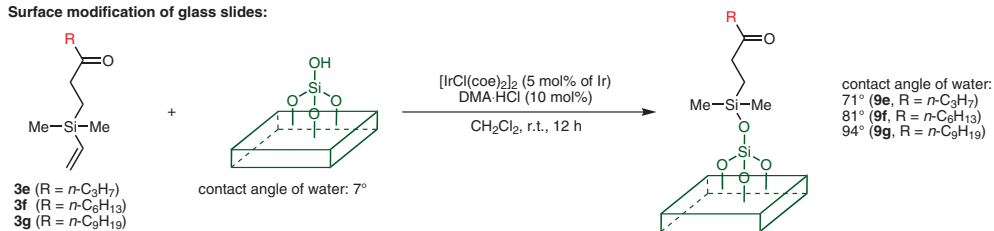
Selected examples:



Preparation of the dansyl group functionalized silica:



Surface modification of glass slides:



Significance: Functionalized vinylsilanes **3** were prepared by hydroacylation of dimethyldivinylsilane (**2**) with various aldehydes **1** in the presence of $(\text{Ph}_3\text{P})_3\text{RhCl}$, 2-amino-3-picoline, and 4-(trifluoromethyl)benzoic acid (63–92% yield, 11 examples). Immobilization of **3** onto silica by using $[\text{IrCl}(\text{coe})_2]_2$ and DMA·HCl gave the corresponding functionalized silica compounds **4** with 0.58–1.04 mmol/g of loading (11 examples).

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Comment: The silica-immobilization method $\{[\text{IrCl}(\text{coe})_2]_2; \text{DMA}\cdot\text{HCl}\}$ has been developed by the same authors (*Org. Lett.* **2007**, *9*, 4073). Surface modification of hydrophilic glass slides with vinylsilanes **3e–g** gave the significantly hydrophobic glass slides **9e–g** as estimated from contact angle measurements.