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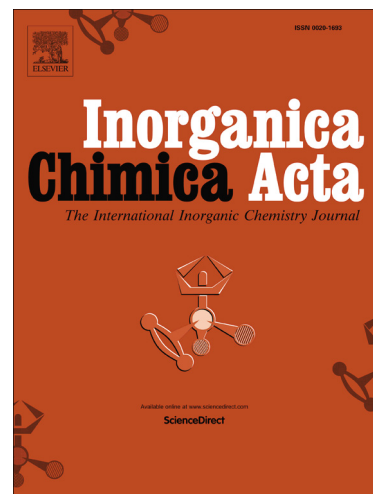
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Straightforward synthesis of ferrocenyl allylic thioethers.

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Abstract

The new ferrocenyl allylic thioethers $\text{FcCH}=\text{CHCH}_2\text{SR}$ (**2a-e**) and $\text{FcCH}(\text{SR})\text{CH}=\text{CH}_2$ (**3a-e**) (R = Ph, **a**; 2-naphthyl, **b**; 3,5-C₆H₃Me₂, **c**; *i*Pr, **d**; *t*Bu, **e**) were synthesized in good yields from ((2-ferrocenylvinyl)methyl)trimethylammonium iodide, [1]⁺T and the corresponding thiol RSH. With sufficiently strong bases to fully deprotonate the thiol, good to excellent regioselectivities (88-99%) in favor of the linear isomer **2** were obtained. The molecular structures of **2a** and **2b** were obtained by X-ray diffraction on monocrystals. A mechanistic proposal based on experimental data and supported by calculations is also presented, underlying the role of the base in the reaction regioselectivity.

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