

## Publication

## 2-(3-Cyanopropyldimethylsilyl)ethyl as a Polar Sulfur Protecting Group

**JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)****ID** 4529480**Author(s)** Bannwart, Linda M.; Rieder, Pascal S.; Mayor, Marcel**Author(s) at UniBasel** [Mayor, Marcel](#) ; [Bannwart, Linda Maria](#) ; [Rieder, Pascal](#) ;**Year** 2019**Title** 2-(3-Cyanopropyldimethylsilyl)ethyl as a Polar Sulfur Protecting Group**Journal** Synthesis**Volume** 51**Number** 22**Pages / Article-Number** 4153-4164**Keywords** thiols; protecting groups; cross-coupling; easy to purify; polarity**Mesh terms** Science & TechnologyPhysical SciencesChemistry, OrganicChemistry

Organosulfur compounds are ubiquitous in synthetic chemistry, biology and materials chemistry. The reactivity of free sulfhydryls requires their masking in many synthetic strategies. To facilitate the isolation of protected thiols by chromatography, we propose 2-(3-cyanopropyldimethylsilyl)ethyl as a polar protecting group analogue of 2-(trimethylsilyl)ethyl. The masked thiophenol is obtained in two synthetically complementing ways. Either an existing thiophenol is protected, or the protected thiol group is introduced by a cross-coupling reaction. In both cases the required reagents are readily available from inexpensive starting materials. Thiol protection and thiol introduction both tolerate a large variety of functional groups and substitution patterns, and the protected thiophenols are stable toward a broad range of reaction conditions. The stability of the protected derivatives in cross-coupling reactions and the mild reaction conditions for the release of the protecting group further emphasizes the potential of the methodology.

**Publisher** Georg Thieme**ISSN/ISBN** 0039-7881 ; 1437-210X**edoc-URL** <https://edoc.unibas.ch/75501/>**Full Text on edoc** Available;**Digital Object Identifier DOI** 10.1055/s-0039-1690184**ISI-Number** 000494735800004**Document type (ISI)** Article