2-(Trimethylsilyl)phenyl Trifluoromethanesulfonate

Compiled by Diego Peña

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Abstracts

(1) The formation of benzyne (4) from triflate 3 was exploited in an usual aryne reaction by trapping benzyne with furan to afford 5. This mild method of generating benzyne has proved to be more powerful in some cases than classical methods.

(2) Slow generation of benzyne by treatment of triflate 3 with CsF, in the presence of catalytic amounts of Pd(0), afforded triphenylene (6) as a result of the cyclotrimerization of benzyne. The cocyclization of alkynes with benzyne can also be catalyzed by palladium complexes: in this case phenanthrene 7 and naphthalene 8 were obtained. The course of the reaction can be controlled by the choice of catalyst.

(3) The palladium-catalyzed reaction of allyl chloride (9) with the benzyne precursor 3 produced phenanthrene 10 in good yield. This reaction is assumed to proceed by insertion of benzyne into the π-allylpalladium intermediate.

References and Notes

(2) D. Peña, Ph.D. thesis.