SY084 One-Pot Synthesis of Dibenzo[b,d]oxepines via Olefinic C-F Bond Functionalization and Intramolecular Pd-Catalyzed C-H Arylation

SY085 Facile Three-Component Synthesis of New Pyrano[3,4-c]pyrrole Derivatives
N. Bennamane, Algiers/DZ, B. Cherfaoui, Algiers/DZ, M. Khalfaoui, Algiers/DZ, H. Lakhdari, Algiers/DZ, B. Nedjar-Kolli, Algiers/DZ

SY086 Efficient Phosphine-Mediated Formal C(sp³)-C(sp³) Coupling Reactions of Alkyl Halides in Batch and Flow

SY087 Synthesis of aromatic sulfonamides as inhibitors of carbonic anhydrases
J. Ivanova, Riga/LV, R. Zalubovskis, Riga/LV

SY088 Total Synthesis of Biselyngbyaside

SY089 Sulfur dioxide: useful reagent and solvent in organic chemistry

SY090 Synthesis of C-linked Carbohydrates bearing Phthalocyanines and the Investigation of their Aggregation Behaviour in Solution
F. Bächle, Tübingen/DE, T. Ziegler, Tübingen/DE

SY091 One pot process for the production of diformylfuran and its transformation into gemini surfactants with particularly low critical micelle concentration

SY092 Synthesis of pretubulysin-derivatives via the TubUgi-approach

SY093 Domino Catalytic and Enantioselective [2,3]-Rearrangement of Allylic Ammonium Ylides
S. Spoehrle, St Andrews/GB

SY094 Synthesis of tryptophan containing cyclopeptides by late stage functionalization
L. Junk, Saarbrücken/DE, U. Kazmaier, Saarbrücken/DE
Sulfur dioxide: useful reagent and solvent in organic chemistry


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Sulfur dioxide reveals a rather long liquid range (b.p. -10 °C; m.p. -75.5 °C) and its phase diagram predicts only ~10 atm pressure at 60 °C in a closed reactor. The latter facts together with high dipole moment (1.61 D) of SO₂ and its Lewis acidic properties makes it a useful reaction medium for transformations involving charged intermediates. We have discovered that unprotected and carbamate-protected aziridines and azetidines undergo efficient ring-opening reactions in liquid SO₂ with I and II group metal halides and thiols [1,2]. The advantage of this approach is based on the fact that carbamate groups (Cbz, Boc) can be easier removed if required than their well-described sulfonamide counterparts.

We have also found that liquid SO₂ facilitates the Ritter reaction. For the latter novel In(OTf)₃ – catalyzed conditions were developed [3]. Liquid SO₂ in combination with In(OTf)₃ or Hf(OTf)₄ (< 1 mol-%) greatly facilitates also alkyne hydration. Moreover, alkyne hydrohalogenation in liquid SO₂ with I and II group metal halides and NH₄X does not require Lewis acid catalysis. The optimization of the reaction conditions will be discussed.

We have developed catalytic conditions for synthesis of trialkylsilyl allylsulfinites in ene-reactions between allylsilanes and SO₂. The obtained products can be used as effective and traceless derivatization (silylation) reagents for qualitative and quantitative GC-analysis of non-volatile polyhydroxy compounds [4] and as starting materials in sulfoxide synthesis [5]. The developed trialkylsilyl methallylsulfinites are powerful silylating agents also on a preparative scale and their application in carbohydrate and nucleoside chemistry will be discussed.

Literature: