A Short and Descriptive Title

Your Name Here

Sigurðsson Research Group

A 6-Months Progress Report

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UNIVERSITY OF ICELAND
DEPARTMENT OF CHEMISTRY
SCIENCE INSTITUTE

Contents

Abstract

Write your abstract here.

Abbreviations

DCM	dichloromethane
DMF	N,N-dimethyformamide
DNA	deoxyribonucleic acid
EPR	electron paramagnetic resonance
ESI-MS	electron-spray ionization mass-spectrometry
J	coupling constant
m/z	mass–charge ratio
NMR	nuclear magnetic resonance
ppm	parts per million
RNA	ribonucleic acid
rt	room temperature (ambient)
TEA	triethylamine
THF	tetrahydrofurane
TFA	trifluoroacetic acid
TLC	thin layer chromatography
δ	chemical shift
s	singlet
d	doublet
t	triplet
q	quartet
m	multiplet

1 Introduction

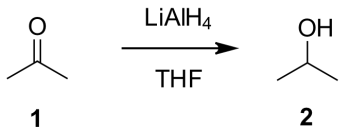
Write your introduction here.

Figure 1. Caption text.

Figure 1 shows a sample image. The DNA double helix was first reported by Watson and Crick in 1953.[1] It also possible to put the citation in superscript, like this.[1]

2 Results and Discussion

Write your syntheses and outcomes here.



Scheme 1. A scheme with no compound numbers.

Scheme 1 shows a sample reaction scheme.

3 Conclusions and Outlook

Write your conclusions, and your outlook here.

4 Experiments

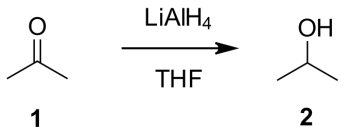
4.1 General

Chemicals were purchased primarily from Sigma-Aldrich Chemical Company and Acros, Belgium, and were used without further purification. Triethylamine was purchased anhydrous. TLC was carried out using glass plates pre-coated with silica gel (F254, Silicycle SiliPlate 60 Å). Visualisation was by UV light, and I_2 staining, respectively. Silica gel was purchased from Silicycle, and used for medium pressure chromatography ("flash"-chromatography).

^{1}H and ^{13}C NMR spectra were recorded at the frequencies stated, using deuterated chloroform as internal standard (δ = 7.26 ppm for ^{1}H and δ = 77.0 ppm for ^{13}C NMR). 400 MHz spectra were recorded on a Bruker Advance 400 spectrometer. All coupling constants were measured in Hertz.

All moisture sensitive reactions were carried out in flame-dried glassware using argon from standard BOC industrial cylinders, dried through an activated silica column. Diethyl ether for moisture-sensitive reactions was used freshly distilled over Na under argon atmosphere. Concentrations of *n*Bu Li in hexane were determined by titration using diphenylacetic acid.

4.2 1,2,4,5-Tetra-*tert.*-butylthiobenzene (1)



To a solution of 2-methyl-2-propanethiol (94 mL, 0.84 mol) in DMF (150 mL) was added small pieces of sodium (19.37 g, 0.84 mol) at 0 °C. The mixture was allowed to reach ambient temperature and was stirred overnight. 1,2,4,5-Tetrachlorobenzene (30.3 g, 140.6 mmol) was added at once, and the resulting mixture was heated to 90 °C. As soon as the reaction mixture darkened and steam started to develop, the heating source was removed. As soon as the exothermic reaction had finished, the mixture was heated to 120 °Cfor 24 h. After being cooled to ambient temperature, the reaction mixture was poured over ice. The precipitate was removed by filtration, washed with water, and dried to give 30 g (49.5%) of the product as an off-white powder.

Notebook reference: MKI-107.

^{1}H NMR (400MHz, $CDCl_3$) δ = 7.94 (2 H, s),1.36 ppm (2 H, s).

^{13}C NMR (101 MHz, $CDCl_3$) δ = 144.78, 139.36, 48.13, 31.33 ppm.

References

[1] J. D. Watson, F. H. Crick, “Molecular structure of nucleic acids”, *Nature* **1953**, *171*, 737–738.

List of Figures

List of Schemes