Supporting Information

The Staudinger reaction with 2-imino-1,3-thiaselenanes toward the synthesis of C4 spiro-β-lactams

Yosuke Toyoda, a,c Masayuki Ninomiya, b Masahiro Ebihara a and Mamoru Koketsu* b

a Department of Chemistry,
b Department of Materials Science and Technology, Faculty of Engineering, Gifu University, Yanagidō 1-1, Gifu, 501-1193, JAPAN. Fax: (+81) 58-293-2619; E-mail: koketsu@gifu-u.ac.jp
c Present address: Department of Pharmacology, Kyoto University Graduate School of Medicine

Table of contents

\(^1\)H and \(^{13}\)C NMR of Compounds 1~4 ........................................... S2~S15
\(^1\)H and \(^{13}\)C NMR of Compounds 6 and 7 ........................................... S16~S48
\(^1\)H and \(^{13}\)C NMR of Compounds 8 .................................................. S49~S70
\(^1\)H and \(^{13}\)C NMR of Compounds 9 .................................................. S71~S78
6a
7b
6c
6d

Chemical structure of compound 6d with selenium atom and chlorine.
**Electronic Supplementary Material (ESI) for Organic & Biomolecular Chemistry**

This journal is © The Royal Society of Chemistry 2013

![Chemical Structure](image)

**6e**
8b major isomer
8b major isomer
minor isomer
Minor isomer
9a (major isomer)
9a
(major isomer)
9a (minor isomer)
9a
(minor isomer)
9b (major isomer)
9b
(major isomer)
9b

(minor isomer)
9b
(minor isomer)