

SUPPORTING INFORMATION

Enzymatic Reduction of Levoglucosenone by an Alkene Reductase
(OYE 2.6): a Sustainable Metal- and Dihydrogen-free Access to the
Bio-based Solvent Cyrene®

Louis M. M. Mouterde,^{a,b} Florent Allais^{a*} and Jon D. Stewart^{b*}

^a AgroParisTech, Chaire Agro-Biotechnologies Industrielles (ABI), CEBB, 3 rue des Rouges
Terres, 51110 Pomacle, France.

^b University of Florida, Department of Chemistry, 126 Sisler Hall, Gainesville, FL 32611
USA. E-mail: jds2@chem.ufl.edu

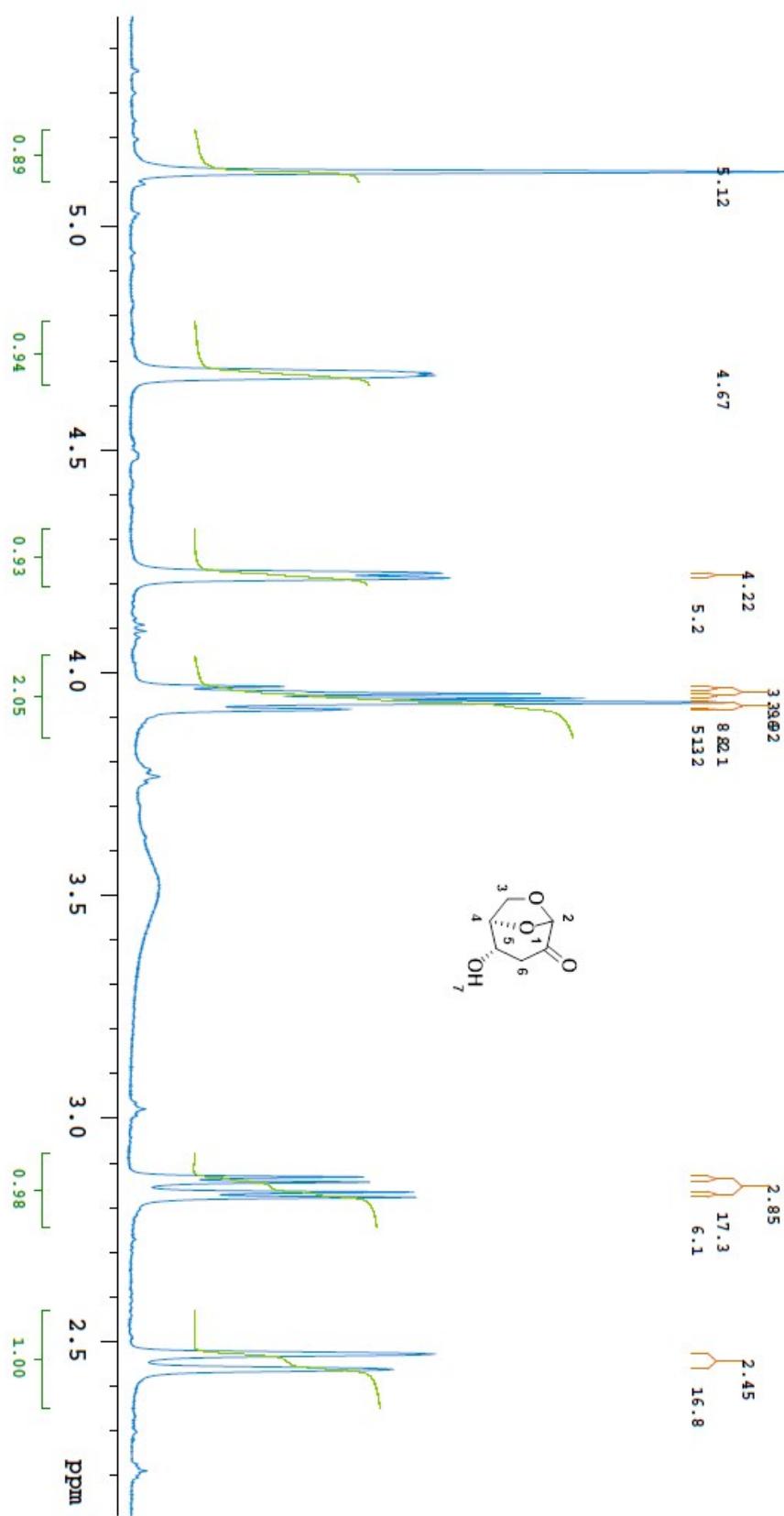
Phone & Fax +33 3 52 62 04 62, E-mail florent.allais@agroparistech.fr, jds2@chem.ufl.edu

*Author to whom correspondence should be addressed

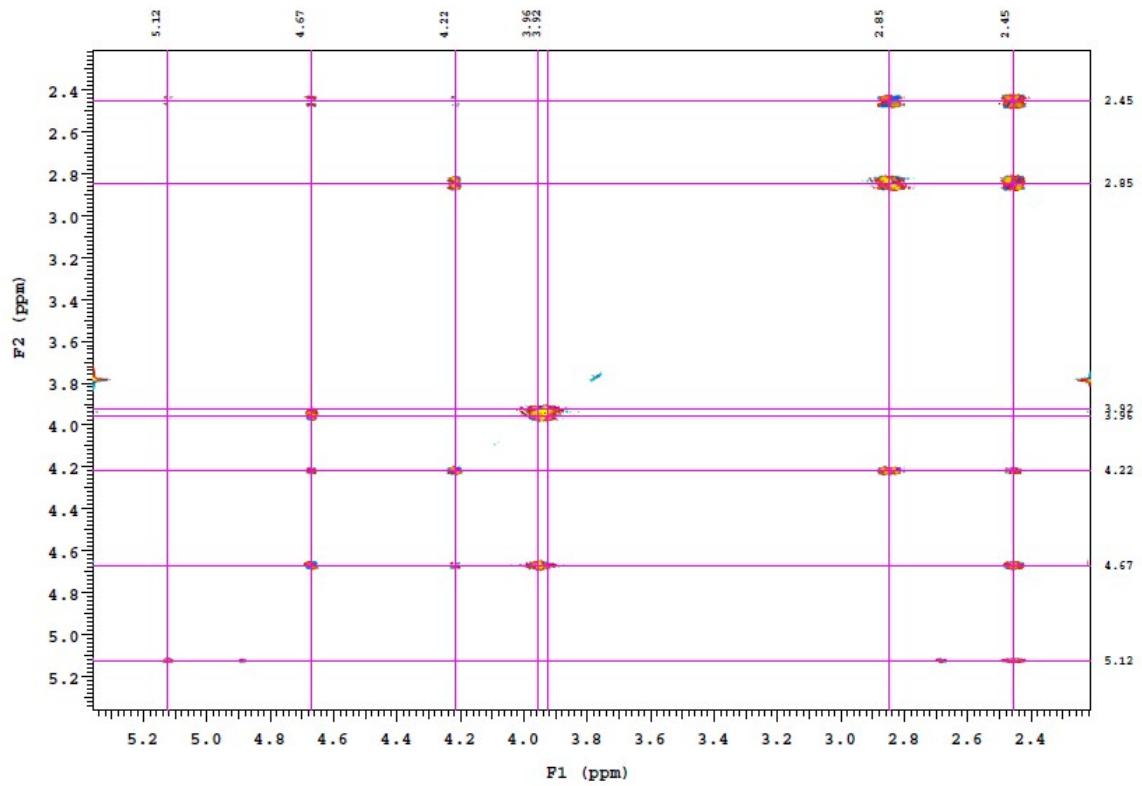
Contents

¹ H-NMR spectrum of (1R,2S)-2-hydroxy-6,8-dioxabicyclo[3.2.1]octan-4-one	3
¹ H- ¹ H DQCOSY spectrum of (1R,2S)-2-hydroxy-6,8-dioxabicyclo[3.2.1]octan-4-one	4
¹ H- ¹³ C HSQC spectrum of (1R,2S)-2-hydroxy-6,8-dioxabicyclo[3.2.1]octan-4-one	5
¹ H TOCSY spectrum of (1R,2S)-2-hydroxy-6,8-dioxabicyclo[3.2.1]octan-4-one	6
¹ H-NMR spectrum of (1S)-6,8-dioxabicyclo[3.2.1]octan-4-one	7
¹³ C-NMR spectrum of (1S)-6,8-dioxabicyclo[3.2.1]octan-4-one	8
GC-FID spectrum of a mixture of (1R,2S)-2-hydroxy-6,8-dioxabicyclo[3.2.1]octan-4-one and (1S)-6,8-dioxabicyclo[3.2.1]octan-4-one	9
GC-FID spectrum of a mixture of (1S)-6,8-dioxabicyclo[3.2.1]octan-4-one	10
MS spectrum of (1R,2S)-2-hydroxy-6,8-dioxabicyclo[3.2.1]octan-4-one	11
MS spectrum of (1S)-6,8-dioxabicyclo[3.2.1]octan-4-one.....	12

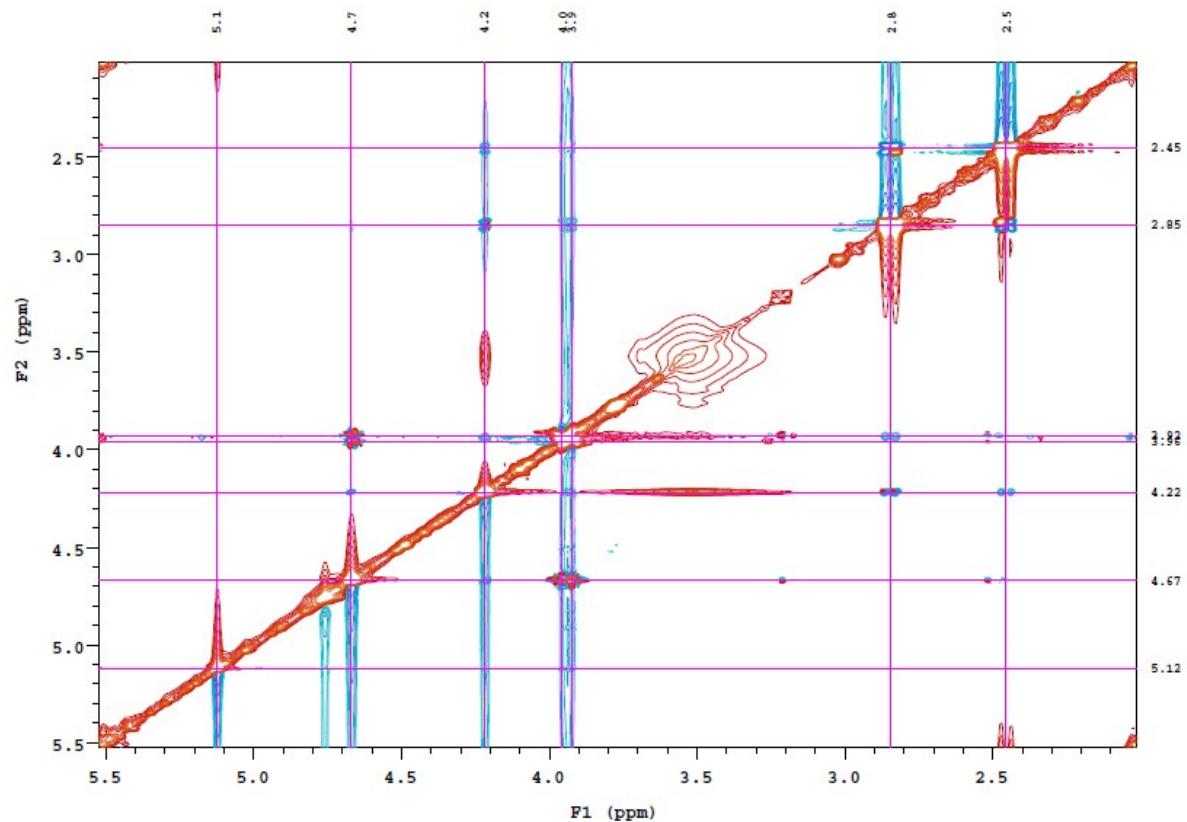
¹H-NMR spectrum of (1R,2S)-2-hydroxy-6,8-dioxabicyclo[3.2.1]octan-4-one



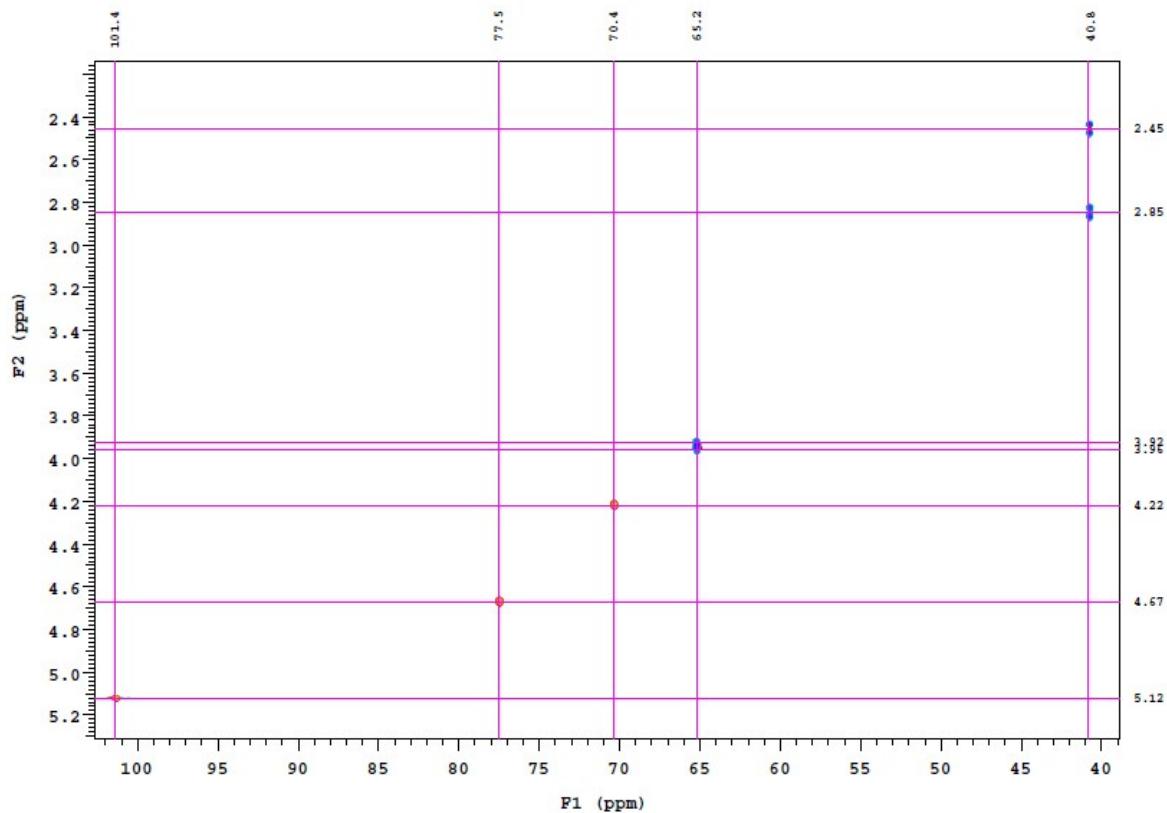
¹H-¹H DQCOSE spectrum of (1R,2S)-2-hydroxy-6,8-dioxabicyclo[3.2.1]octan-4-one



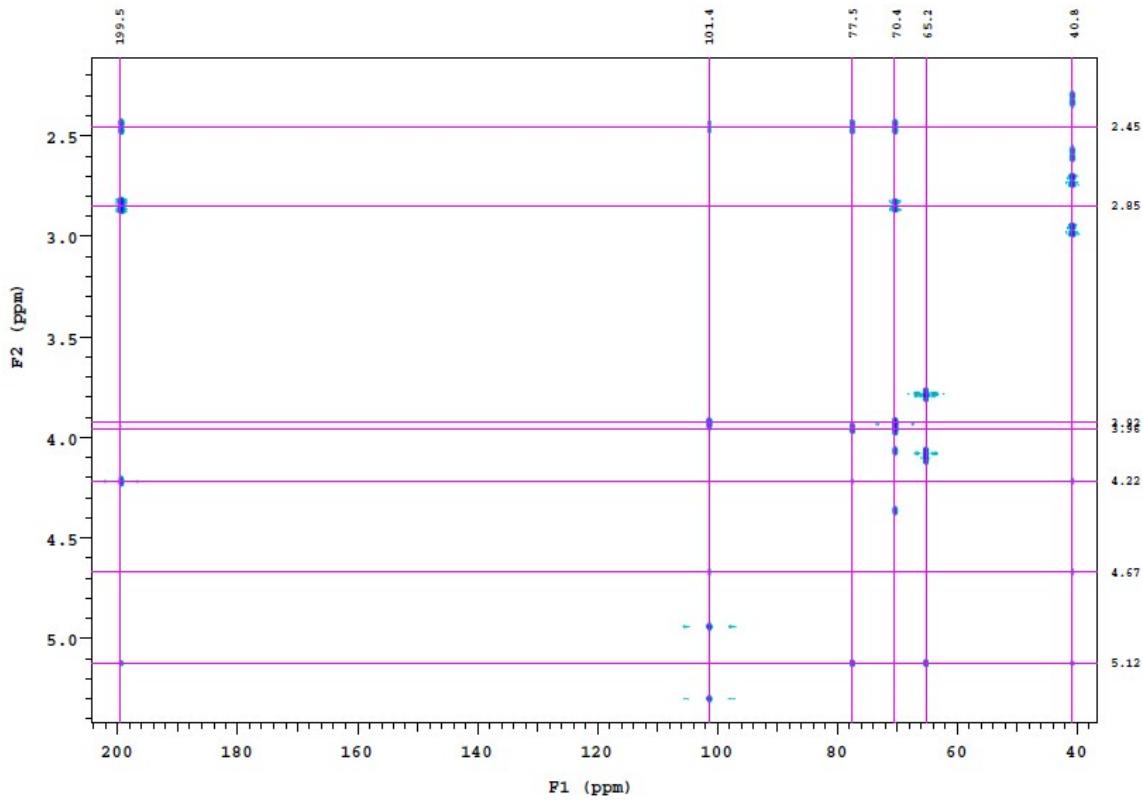
¹H-¹H DQCOSE spectrum zoom of (1R,2S)-2-hydroxy-6,8-dioxabicyclo[3.2.1]octan-4-one



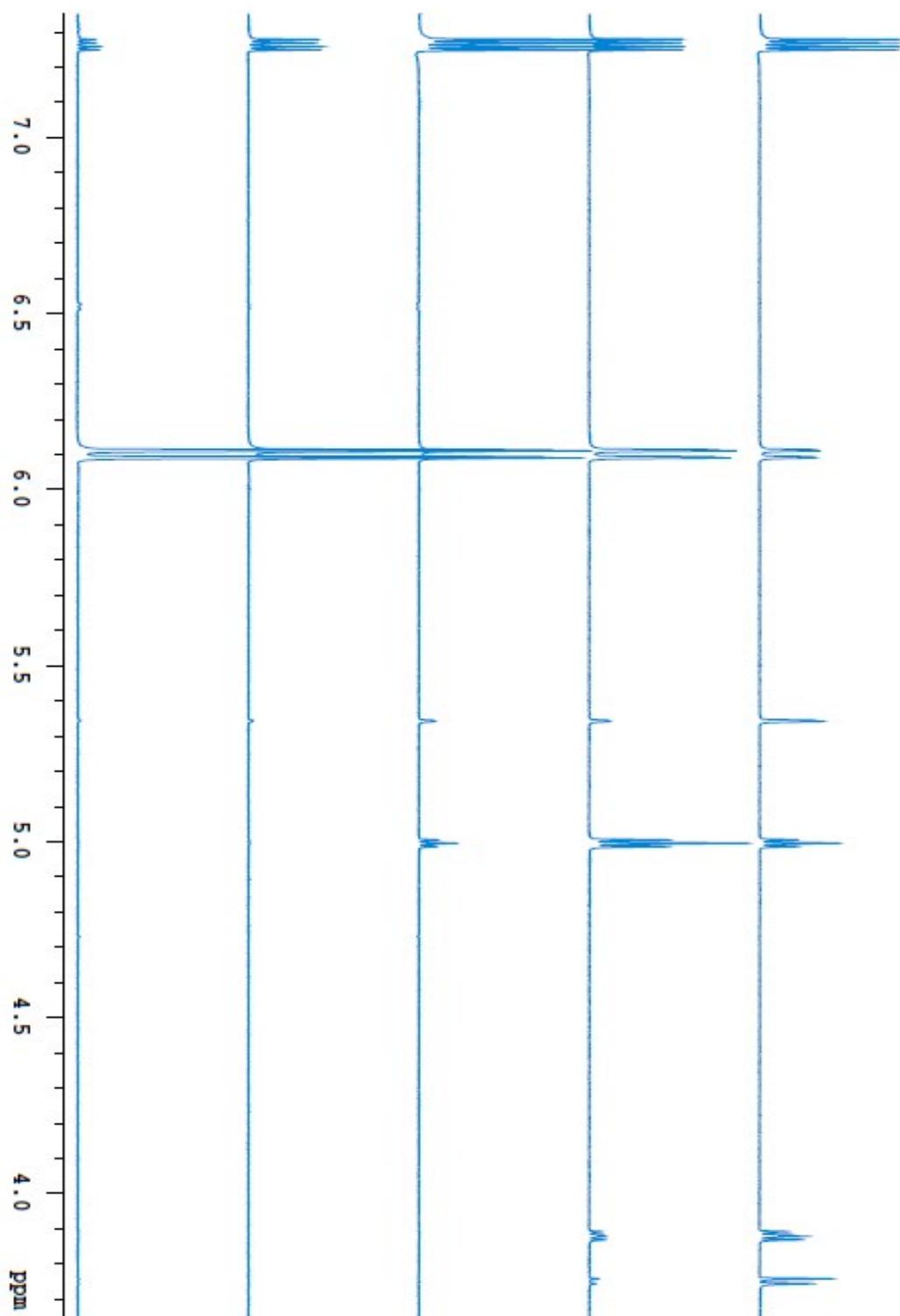
^1H - ^{13}C HSQC spectrum of (1R,2S)-2-hydroxy-6,8-dioxabicyclo[3.2.1]octan-4-one



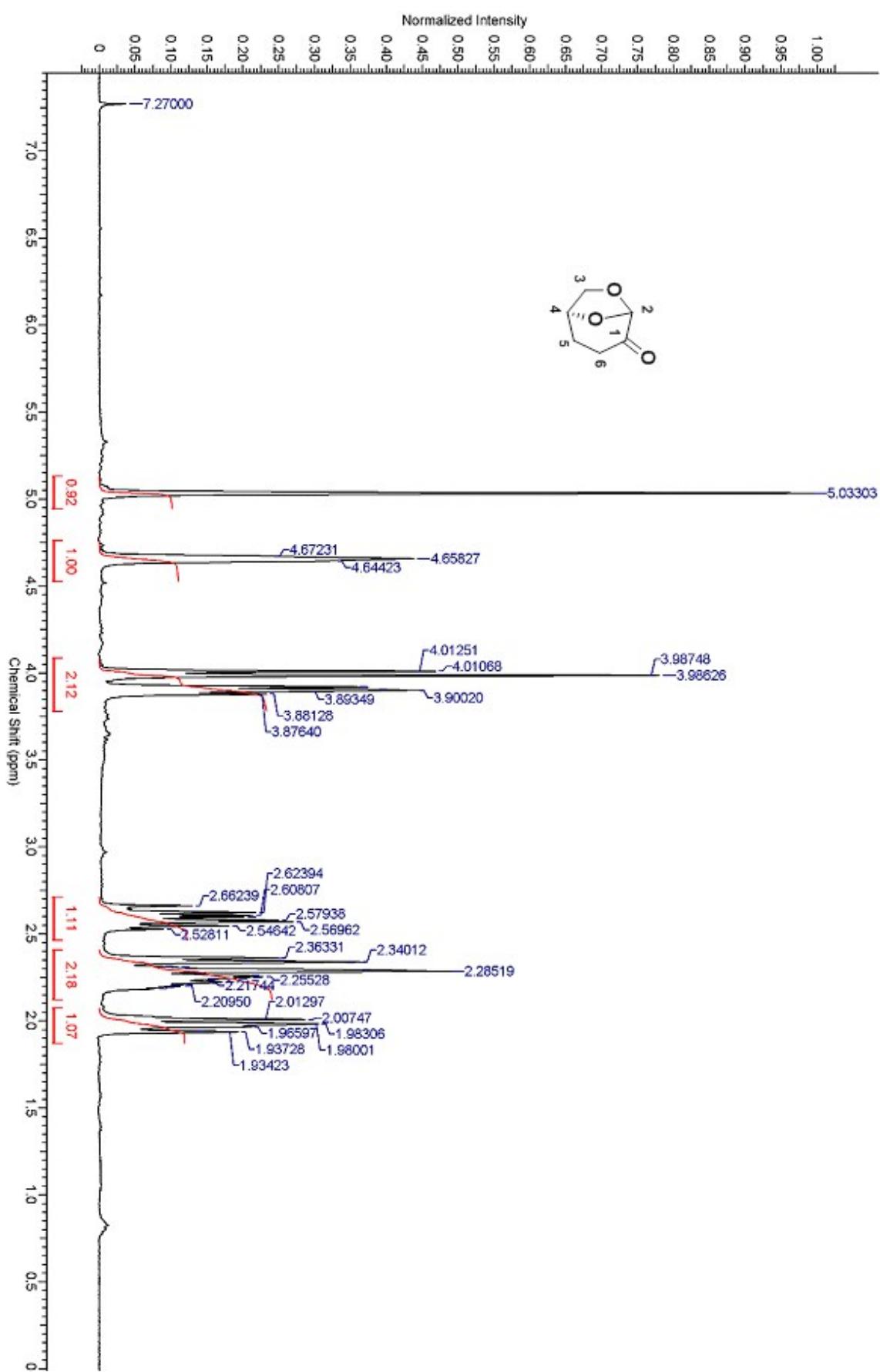
^1H - ^{13}C HMBC spectrum of (1R,2S)-2-hydroxy-6,8-dioxabicyclo[3.2.1]octan-4-one



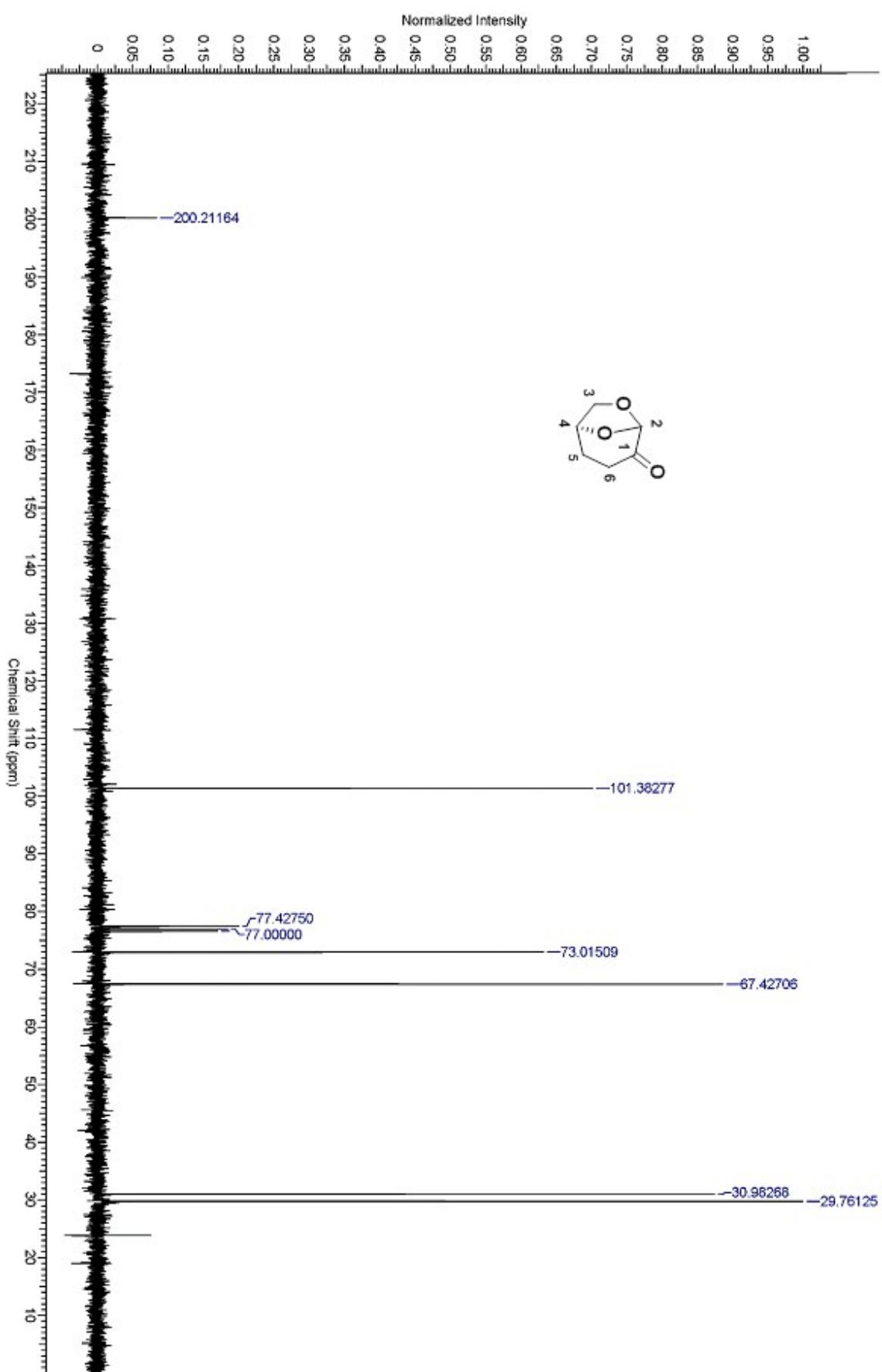
¹H TOCSY spectrum of (1R,2S)-2-hydroxy-6,8-dioxabicyclo[3.2.1]octan-4-one



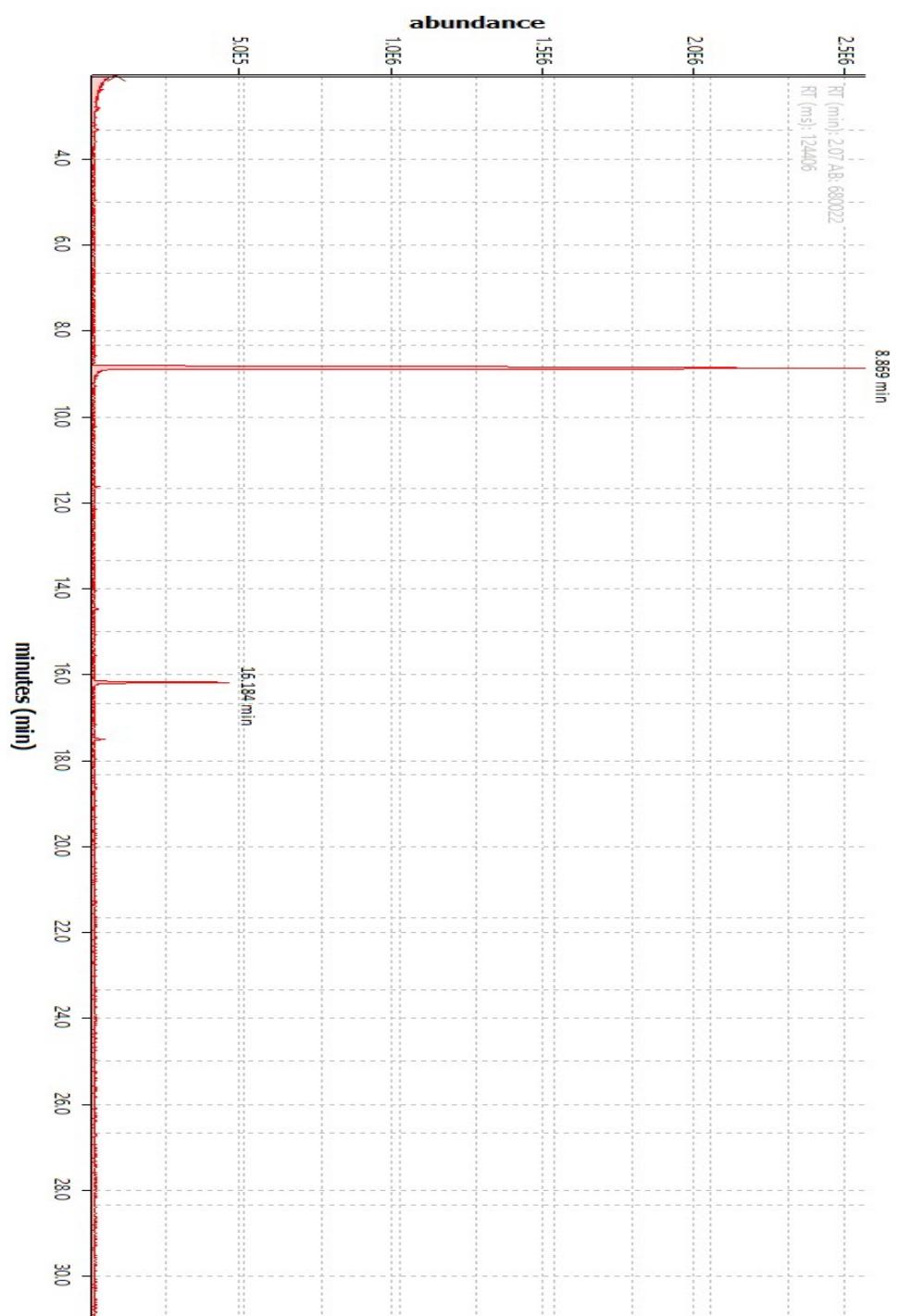
¹H-NMR spectrum of (1S)-6,8-dioxabicyclo[3.2.1]octan-4-one



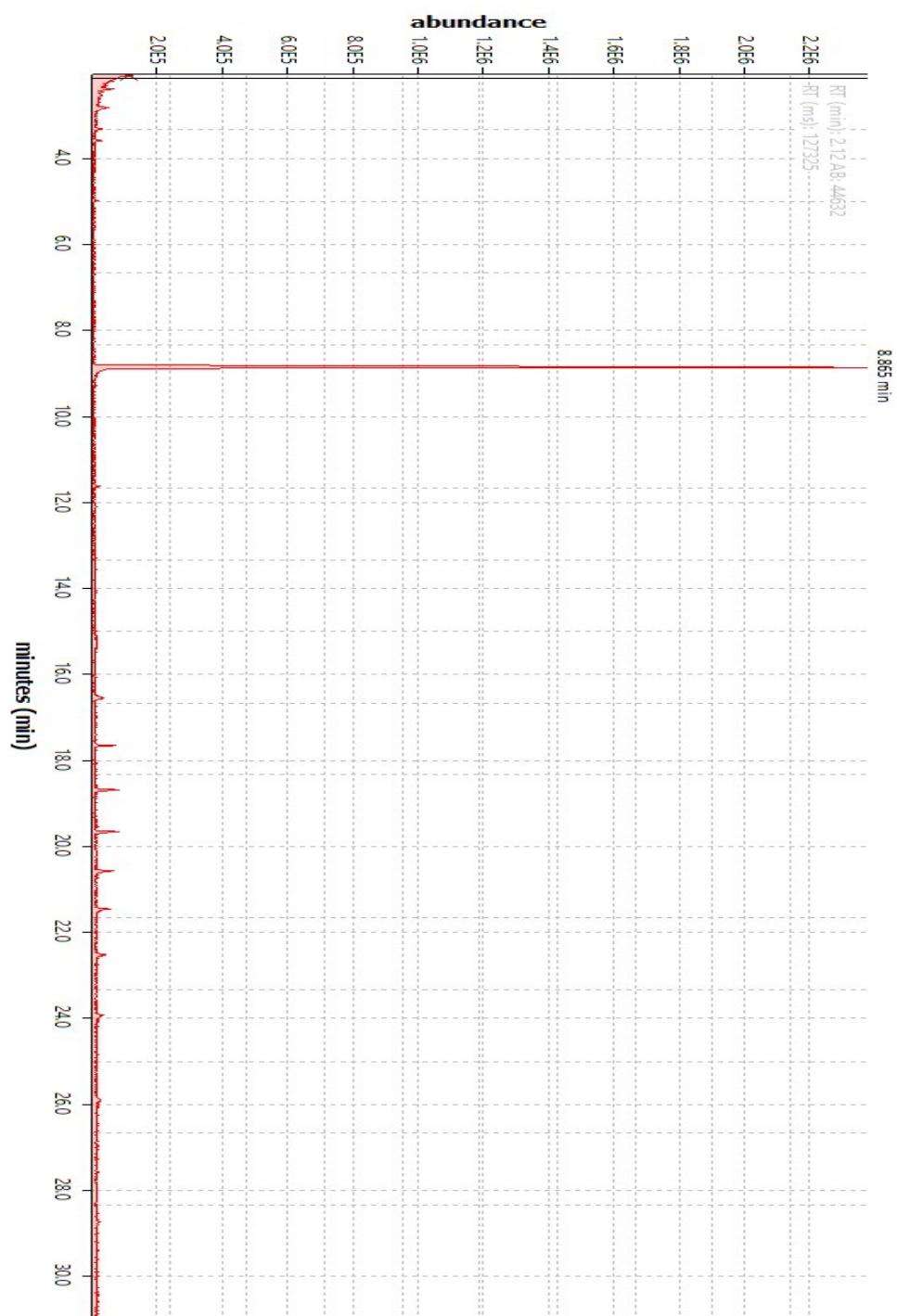
¹³C-NMR spectrum of (1S)-6,8-dioxabicyclo[3.2.1]octan-4-one



GC-FID spectrum of a mixture of (1R,2S)-2-hydroxy-6,8-dioxabicyclo[3.2.1]octan-4-one and (1S)-6,8-dioxabicyclo[3.2.1]octan-4-one



GC-FID spectrum of a mixture of (1S)-6,8-dioxabicyclo[3.2.1]octan-4-one



MS spectrum of (1R,2S)-2-hydroxy-6,8-dioxabicyclo[3.2.1]octan-4-one

