## Supporting informations <br> for

# Synthesis and transformation of (-)-isopulegol-based chiral $\beta$-aminolactones and $\beta$-aminoamides 

Tam Minh Le ${ }^{1,2}$, Péter Bérdi ${ }^{3}$, Zupkó István ${ }^{3,4}$, Ferenc Fülöp ${ }^{1,2}$, Zsolt Szakonyi ${ }^{1,4, *}$<br>${ }^{1}$ Institute of Pharmaceutical Chemistry, University of Szeged, H-6720 Szeged, Eötvös utca 6, Hungary; leminhtam@pharm.u-szeged.hu; fulop@pharm.u-szeged.hu<br>${ }^{2}$ Stereochemistry Research Group of the Hungarian Academy of Sciences, H-6720 Szeged, Eötvös utca 6, Hungary<br>${ }^{3}$ Department of Pharmacodynamics and Biopharmacy, University of Szeged, H-6720 Szeged, Eötvös utca 6, Hungary; zupko@pharm.u-szeged.hu<br>${ }^{4}$ Interdisciplinary Centre of Natural Products, University of Szeged, H-6720 Szeged, Eötvös utca 6, Hungary<br>* Correspondence: szakonyi@pharm.u-szeged.hu; Tel.: +36-62-546809; Fax: +36-62-545705

## Contents

${ }^{1} \mathrm{H},{ }^{13} \mathrm{C}$ NMR spectra of new compounds $\quad 3-70$
${ }^{1} \mathrm{H}$-NMR of compound $\mathbf{5 a} \mathbf{+ 5} \mathbf{5}$

${ }^{1} \mathrm{H}$-NMR of compound $\mathbf{5 a}$


${ }^{1} \mathrm{H}$-NMR of compound 6

${ }^{13} \mathrm{C}$-NMR of compound 6

${ }^{1} \mathrm{H}$-NMR of compound 7

${ }^{13} \mathrm{C}$-NMR of compound 7


## ${ }^{1}$ H-NMR of compound $\mathbf{8}$


${ }^{13} \mathrm{C}$-NMR of compound $\mathbf{8}$

${ }^{1} \mathrm{H}$-NMR of compound 9

${ }^{13} \mathrm{C}$-NMR of compound 9

${ }^{1} \mathrm{H}$-NMR of compound $\mathbf{1 0}$


${ }^{1} \mathrm{H}$-NMR of compound $\mathbf{1 1}$

${ }^{13} \mathrm{C}$-NMR of compound $\mathbf{1 1}$


${ }^{13} \mathrm{C}$-NMR of compound $\mathbf{1 2}$

${ }^{1}$ H-NMR of compound $\mathbf{1 3}$

${ }^{13} \mathrm{C}$-NMR of compound $\mathbf{1 3}$

${ }^{1} \mathrm{H}$-NMR of compound $\mathbf{1 4}$

${ }^{13} \mathrm{C}$-NMR of compound 14

${ }^{1} \mathrm{H}$-NMR of compound 15

${ }^{13} \mathrm{C}$-NMR of compound 15

${ }^{1} \mathrm{H}$-NMR of compound 16

${ }^{13} \mathrm{C}$-NMR of compound 16

${ }^{1} \mathrm{H}$-NMR of compound $\mathbf{1 7}$
(208

${ }^{1} \mathrm{H}$-NMR of compound 18


${ }^{1} \mathrm{H}$-NMR of compound 19

${ }^{13} \mathrm{C}$-NMR of compound 19

${ }^{1} \mathrm{H}$-NMR of compound 20

${ }^{13} \mathrm{C}$-NMR of compound 20

${ }^{1} \mathrm{H}$-NMR of compound 21

${ }^{13} \mathrm{C}$-NMR of compound 21

${ }^{1} \mathrm{H}$-NMR of compound 22

${ }^{13} \mathrm{C}-\mathrm{NMR}$ of compound 22

${ }^{1} \mathrm{H}$-NMR of compound 23

${ }^{13} \mathrm{C}$-NMR of compound 23

${ }^{1} \mathrm{H}$-NMR of compound 24




${ }^{1}$ H-NMR of compound 26


${ }^{1} \mathrm{H}$-NMR of compound 27

${ }^{13} \mathrm{C}$-NMR of compound 27

${ }^{1} \mathrm{H}$-NMR of compound 28

${ }^{13} \mathrm{C}$-NMR of compound 28


${ }^{13} \mathrm{C}$-NMR of compound 29

${ }^{1} \mathrm{H}$-NMR of compound $\mathbf{3 0}$

${ }^{13} \mathrm{C}$-NMR of compound 30

${ }^{1} \mathrm{H}$-NMR of compound 31

${ }^{13} \mathrm{C}-\mathrm{NMR}$ of compound 31

${ }^{1} \mathrm{H}$-NMR of compound 32

${ }^{13} \mathrm{C}$-NMR of compound 32


${ }^{13} \mathrm{C}$-NMR of compound 33

${ }^{1} \mathrm{H}$-NMR of compound 34


${ }^{1} \mathrm{H}$-NMR of compound 35

${ }^{13} \mathrm{C}$-NMR of compound 35



${ }^{1} \mathrm{H}$-NMR of compound $\mathbf{3 7}$

${ }^{13} \mathrm{C}$-NMR of compound 37


