

Antiprotozoal activity of dehydroabietic acid derivatives against *Leishmania donovani* and *Trypanosoma cruzi*

Mikko Vahermo,^a Sara Krogerus,^a Abdelmajeed Nasereddin,^b Marcel Kaiser,^c Reto Brun,^c Charles L. Jaffe,^b Jari Yli-Kauhaluoma,^a Vânia M. Moreira^{a,*}

^aDivision of Pharmaceutical Chemistry and Technology, Faculty of Pharmacy, P. O. Box 56, Viikinkaari 5 E, FI-00014 University of Helsinki, Finland. vania.moreira@helsinki.fi

^bDepartment of Microbiology and Molecular Genetics, IMRIC, P. O. Box 12272, Hebrew University-Hadassah Medical School, 9112102 Jerusalem, Israel.

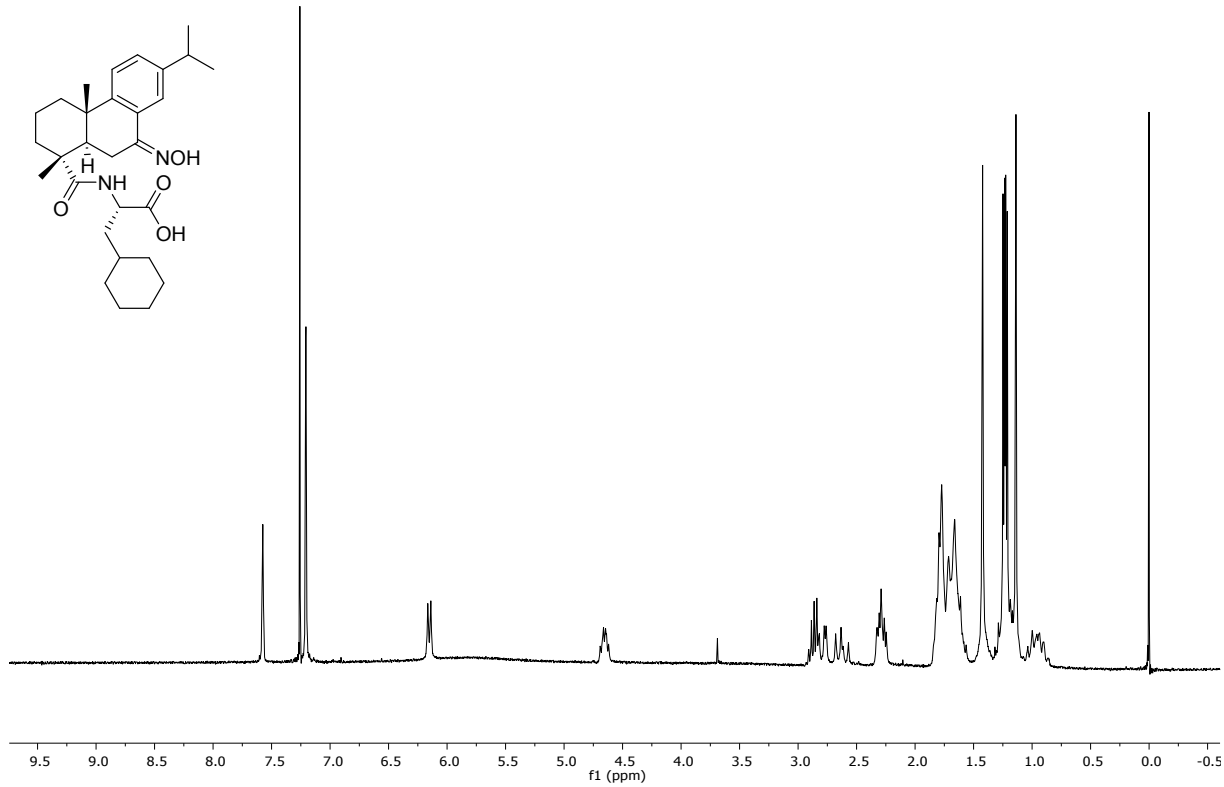
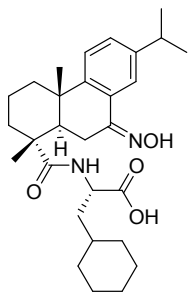
^cDepartment of Medical Parasitology and Infection Biology, Swiss Tropical and Public Health Institute, Socinstrasse 57, 4051 Basel, Switzerland.

Supplementary Information

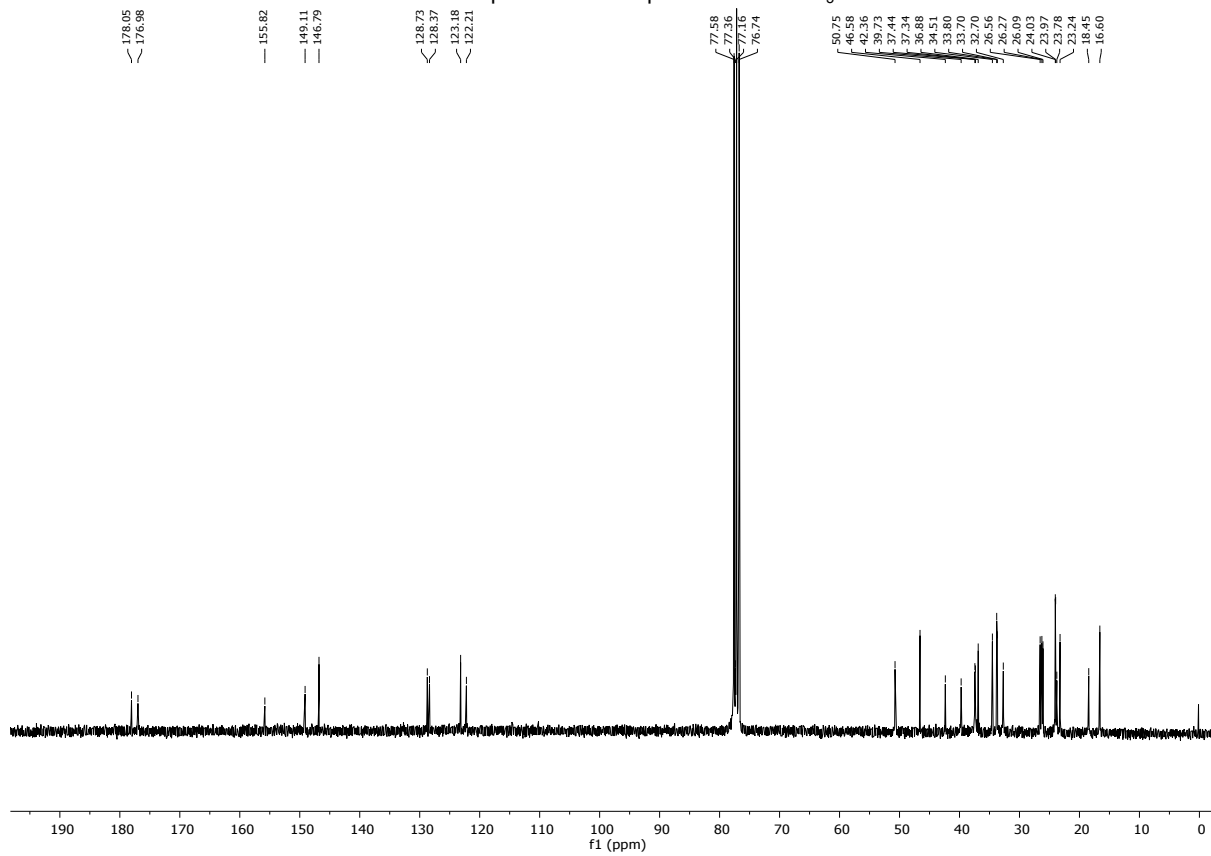
Table of Contents

Compound spectra.....	2
¹ H-NMR spectrum of compound 17 in CDCl ₃	2
¹³ C-NMR spectrum of compound 17 in CDCl ₃	2
¹ H-NMR spectrum of compound 29 in DMSO- <i>d</i> ₆	3
¹³ C-NMR spectrum of compound 29 in DMSO- <i>d</i> ₆	3
Table 1. Calculated Lipinski parameters and drug scores of compounds 13-16 , 19 , 23-26 and 28	4
Table 2. Predicted toxicity of compounds 13-16 , 19 , 23-26 and 28	4
References.....	5

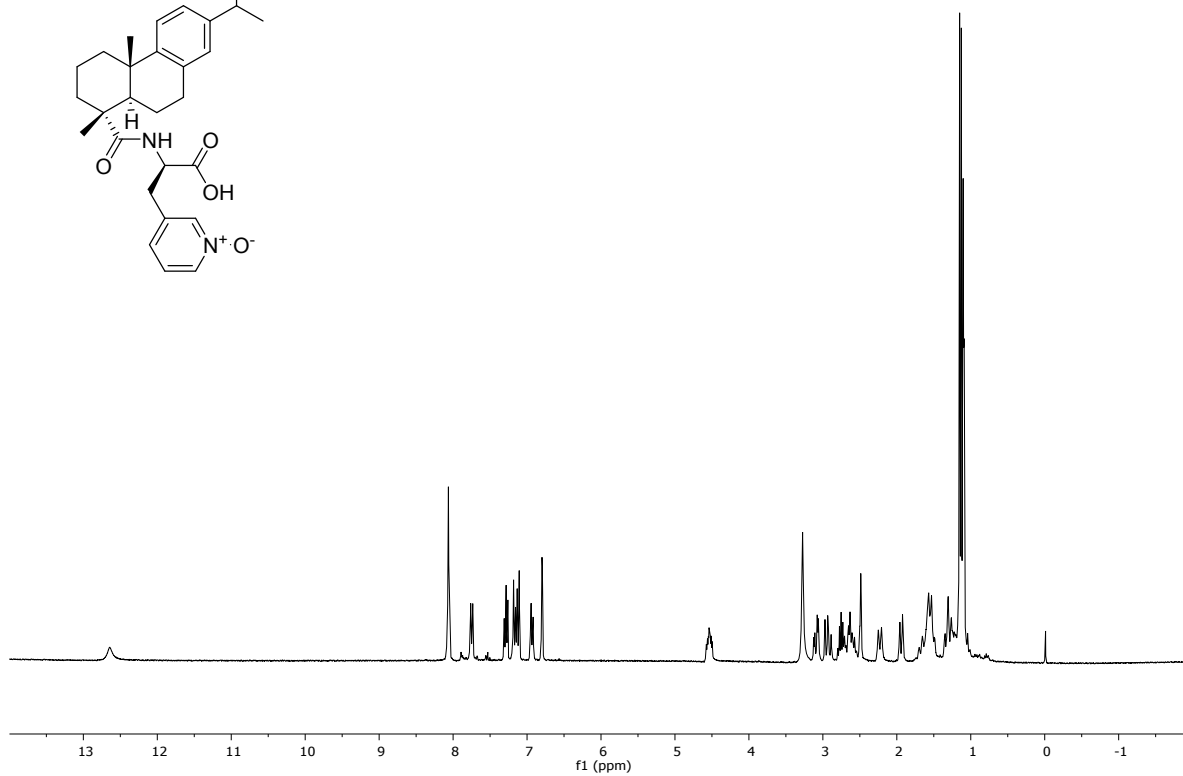
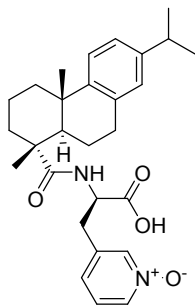
Compound spectra



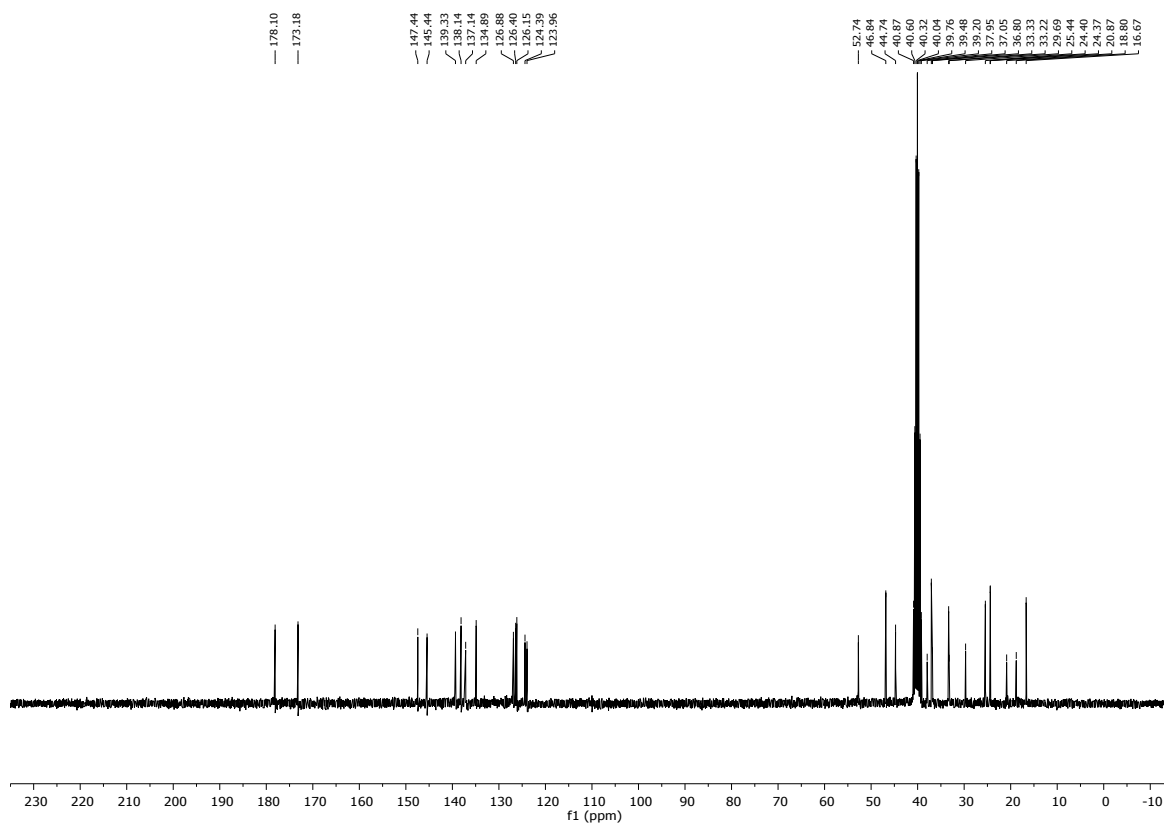
¹H-NMR spectrum of compound **17** in CDCl₃.



¹³C-NMR spectrum of compound **17** in CDCl₃.



$^1\text{H-NMR}$ spectrum of compound **29** in $\text{DMSO-}d_6$.



$^{13}\text{C-NMR}$ spectrum of compound **29** in $\text{DMSO-}d_6$.

Table 1. Calculated Lipinski parameters and drug scores of compounds **13-16, 19, 23-26** and **28**.^{1,2}

Compound	MW^a	logP^b	HBAs^c	HBDs^d	Drug score
Rule³	≤ 500	≤ 5	≤ 10	≤ 5	--
13	453	6.25	3	2	0.16
14	467	6.55	2	1	0.15
15	467	5.19	4	2	0.17
16	496	5.19	4	2	0.14
19	447	6.32	3	2	0.18
23	447	6.32	3	2	0.18
24	462	5.04	3	1	0.33
25	448	5.01	4	2	0.24
26	477	6.07	3	2	0.23
28	478	3.50	3	1	0.20

^aMW: molecular weight

^blog *P*: logarithm of partition coefficient between *n*-octanol and water

^cHBA: hydrogen bond acceptor

^dHBD: hydrogen bond donor

Table 2. Predicted toxicity of compounds **13-16, 19, 23-26** and **28** (1 = safe).¹

Compound	Mutagenic	Tumorigenic	Irritant	Reproductive Effect
13	1	1	1	1
14	1	1	1	1
15	1	1	1	1
16	1	1	1	1
19	1	1	1	1
23	1	1	1	1
24	1	1	1	1
25	1	1	1	1
26	1	1	1	1
28	1	1	1	1

References

1. OSIRIS Property Explorer. Available online from: <http://www.organicchemistry.org/prog/peo/>.
2. Marvin Sketch 6.3.0. Available online from: <http://www.chemaxon.com/products/marvin/marvinsketch>.
3. P. Lesson, *Nature*, 2012, **481**, 455-456.