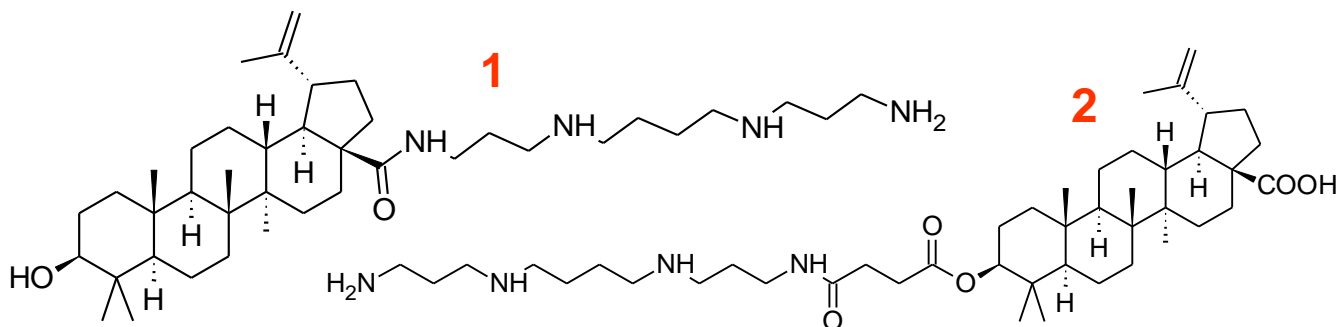


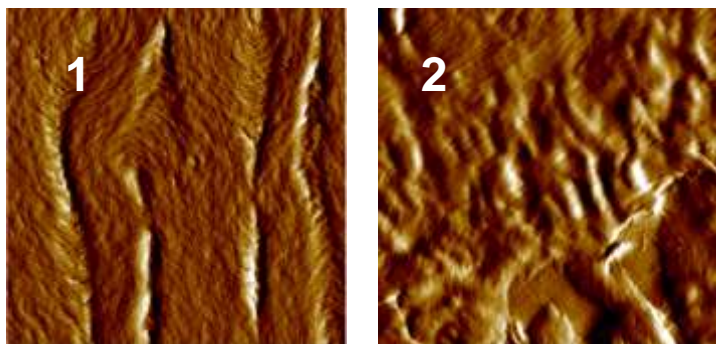
Chemie triterpenoidních supramolekul

Zabýváme se přípravou a studiem vlastností a biologické aktivity nadmolekulárních útvarů, **supramolekul**. Molekuly, které zkoumáme, jsou polyfunkční deriváty terpenoidů, které jsou schopny mnohonásobných polárních a nepolárních interakcí nezbytných pro samoskladebné vlastnosti.

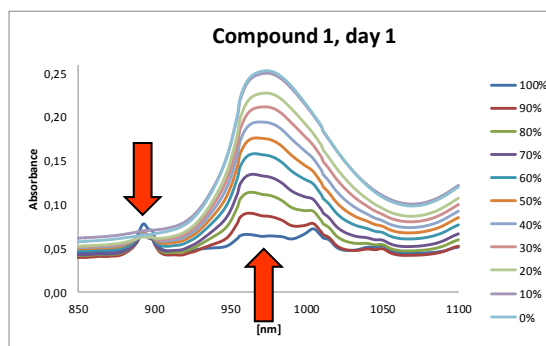


Jak poznáme,
že ke samoskladbě
dochází?

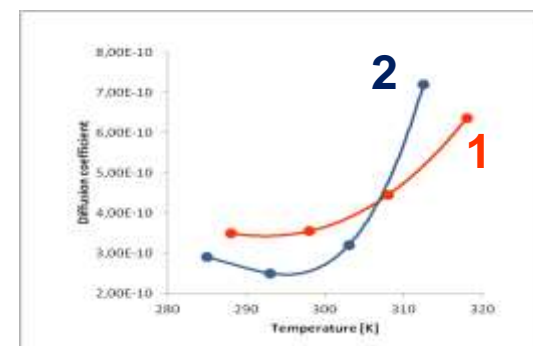
Pozorováním pod mikroskopem



Měřením UV spekter

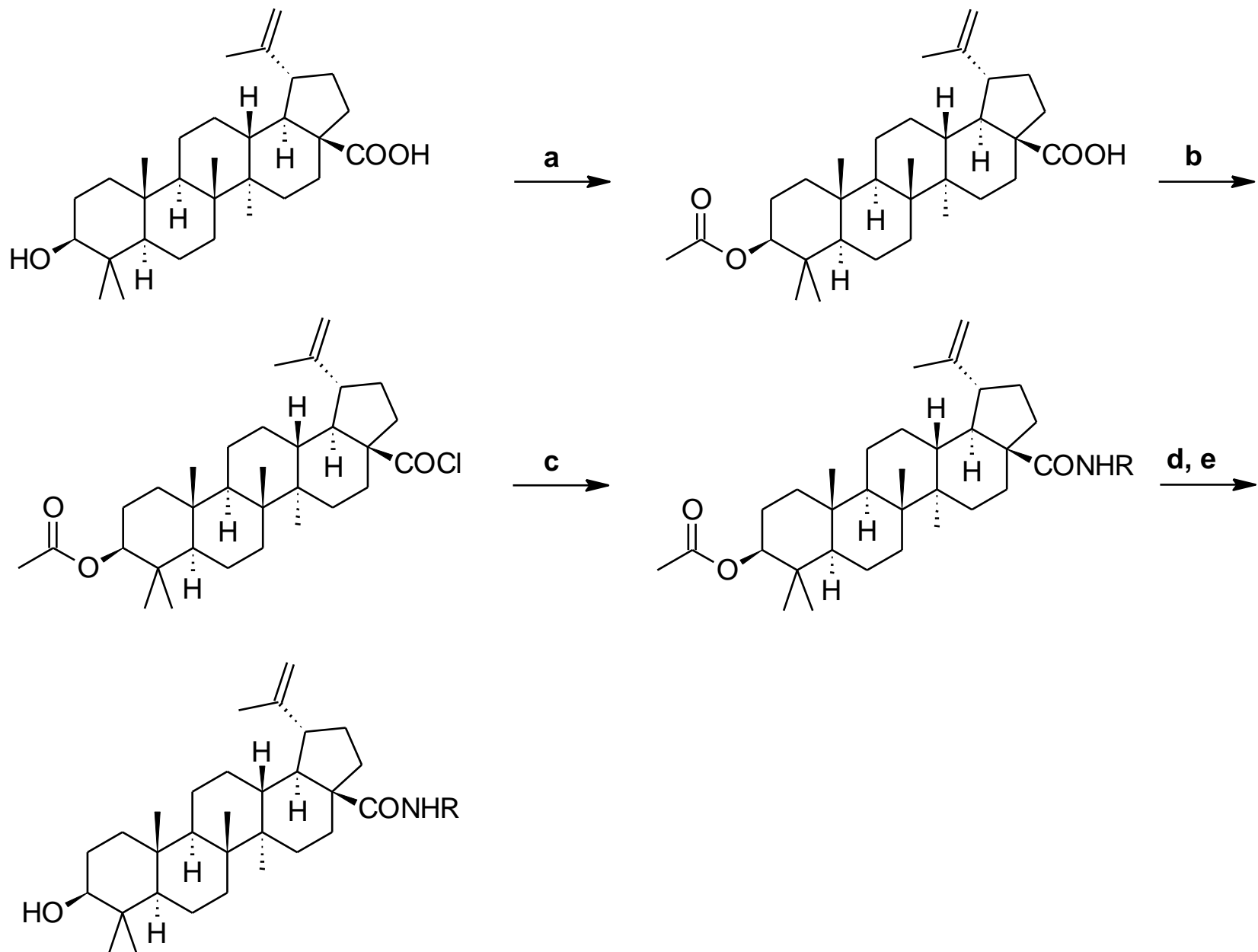


Měřením difuzních
koeficientů pomocí
NMR

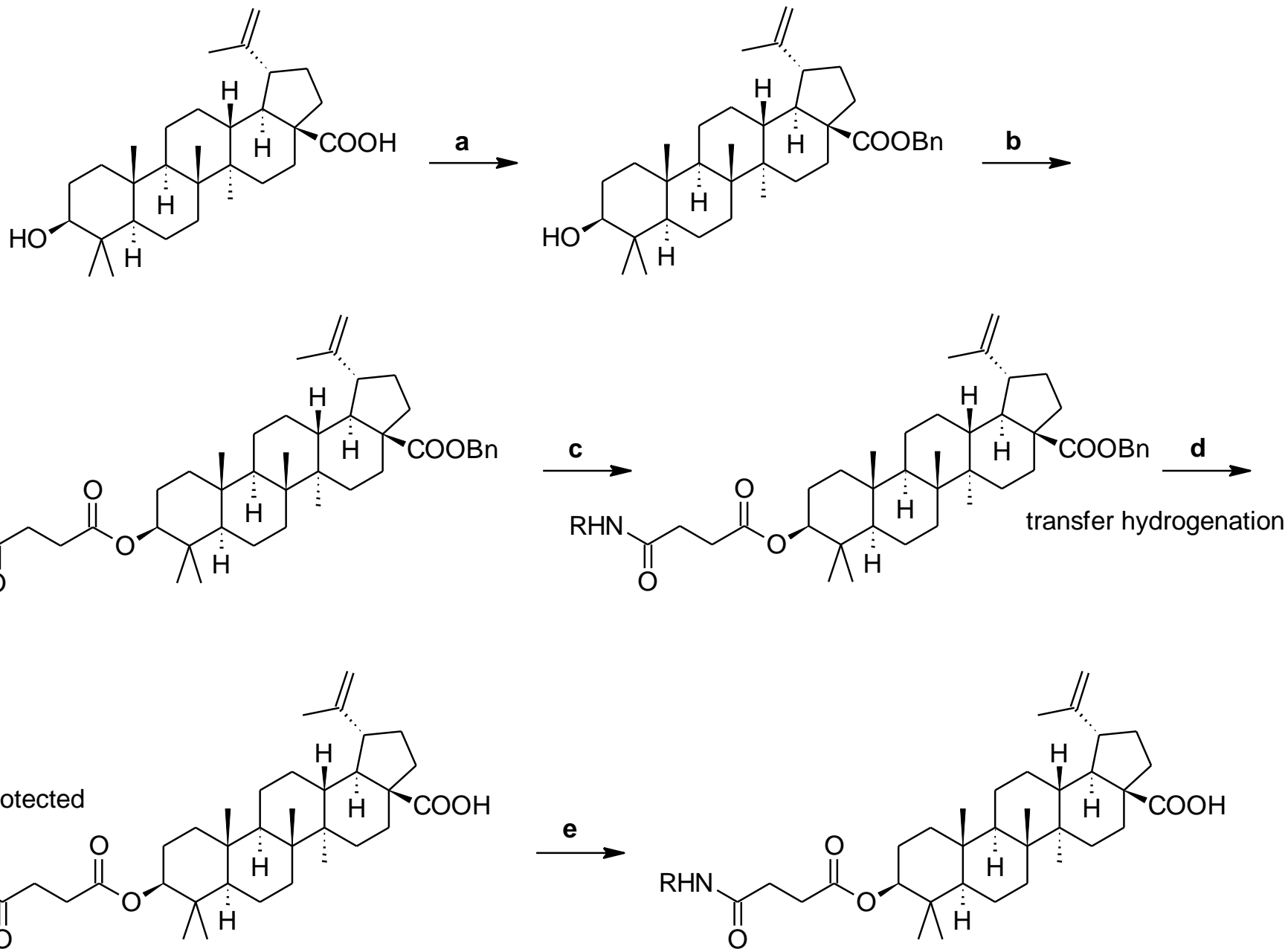


Kontakt: Zdenek.Wimmer@vscht.cz; wimmer@biomed.cas.cz

Polyamine-based amides of betulinic acid



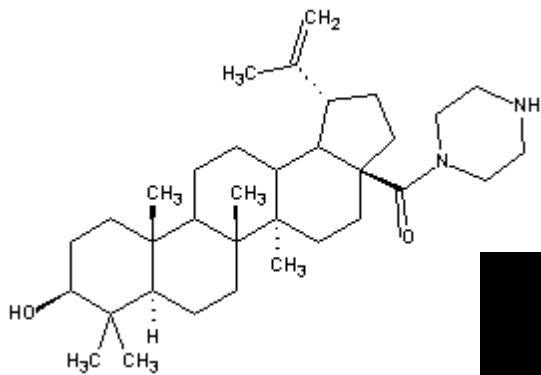
Polyamine-derived betulonic acid hemiesters at C(3)-OH



Physico-chemical and ADME parameters

Compd	MW < 550	logP -0.4 - +5.6	logD*	logS* -6.5 - +0.5	bioav.	logPS.f	logPB +2 - -2	logBB -3 - +1.2
Sito-a	557	6.67	4.83	-6.40	30-70%	-4.9	0.06	0.2
Sito-b	583	6.67	7.20	-7.34	<30%	-4.2	0.23	0.23
Sito-c	699	7.03	1.71	-2.20	<30%	-5.8	0.5	0.5
Amid-a	499	7.77	3.34	-4.07	30-70%	-5.8	0.2	0.2
Amid-b	525	6.09	5.47	-5.00	30-70%	-3.9	0.35	0.21
Amid-c	641	6.09	0.17	-0.02	30-70%	-5.2	0.66	0.66
Hemi-a	599	5.20	2.70	-6.38	<30%	-4.2	0.06	0.07
Hemi-b	625	9.13	3.65	-6.74	<30%	-6.6	0	0
Hemi-c	741	5.49	1.48	-4.12	<30%	-5.2	0.61	0.61

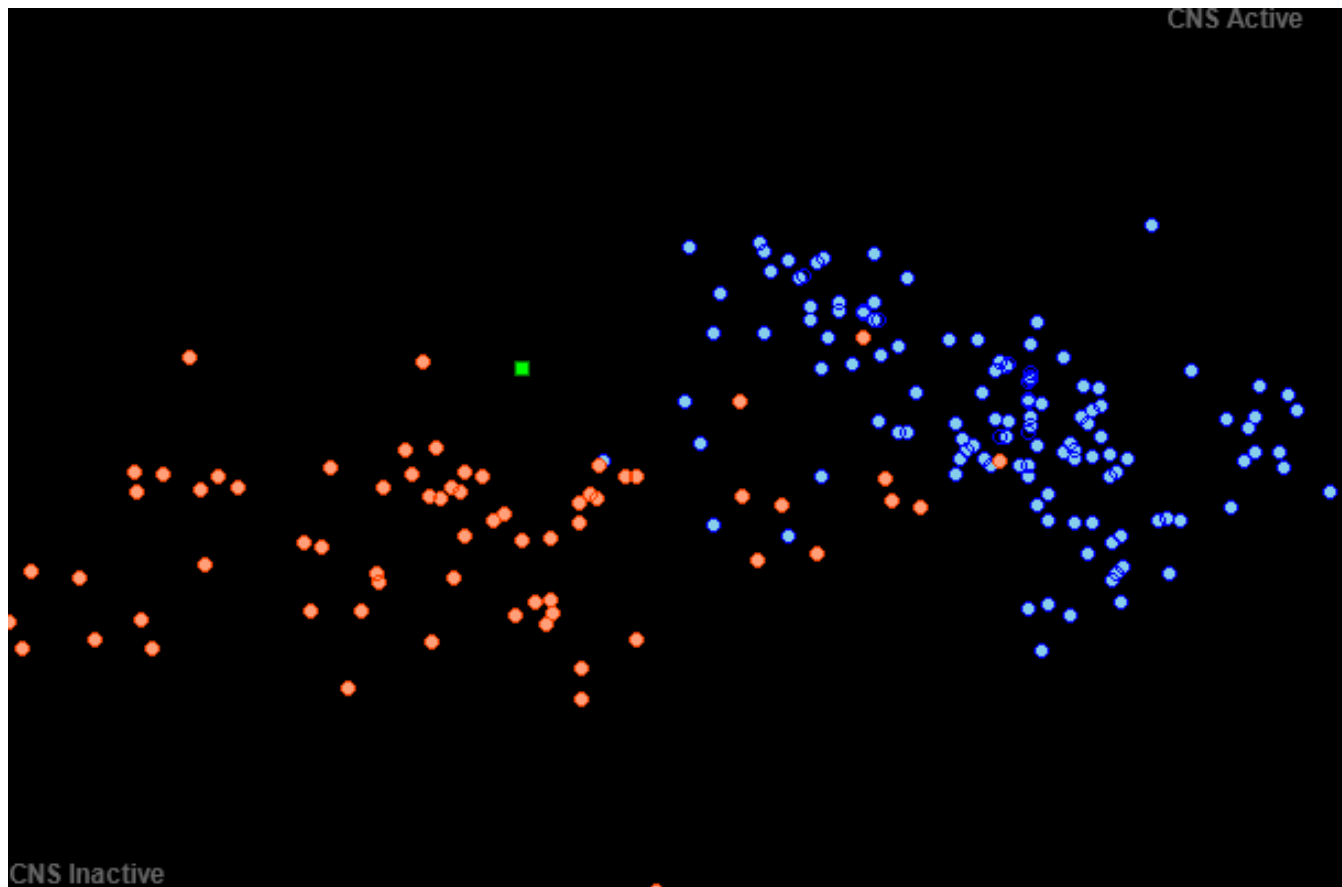
ADME parameters: Example of activity on CNS



$\log PS * f$:
brain / plasma
equilibration
rate

$\log BB$:
hybrid parameter
determined by
permeability,
plasma and brain
tissue binding and
active transport
mechanism

$\log BB$



$\log PS * f$

Physico-chemical parameters and cytotoxicity

Compd	MW < 550	log <i>P</i> -0.4 - +5.6	log <i>D</i> *	log <i>S</i> * -6.5 - +0.5	CEM IC ₅₀ μM	MCF7 IC ₅₀ μM	HeLa IC ₅₀ μM	BJ IC ₅₀ μM
Sito-a	557	6.67	4.83	-6.40	>50	>50	>50	>50
Sito-b	583	6.67	7.20	-7.34	35.3	>50	>50	37.7
Sito-c	699	7.03	1.71	-2.20	26.5	>50	18.4	19.7
Amid-a	499	7.77	3.34	-4.07	0.7	2.4	2.3	2.6
Amid-b	525	6.09	5.47	-5.00	0.8	7.8	5.7	6.2
Amid-c	641	6.09	0.17	-0.02	7.7	3.3	4.4	3.9
Hemi-a	599	5.20	2.70	-6.38	26.8	>50	>50	>50
Hemi-b	625	9.13	3.65	-6.74	7.3	35.5	21.9	>50
Hemi-c	741	5.49	1.48	-4.12	5.2	>50	23.8	42.9

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