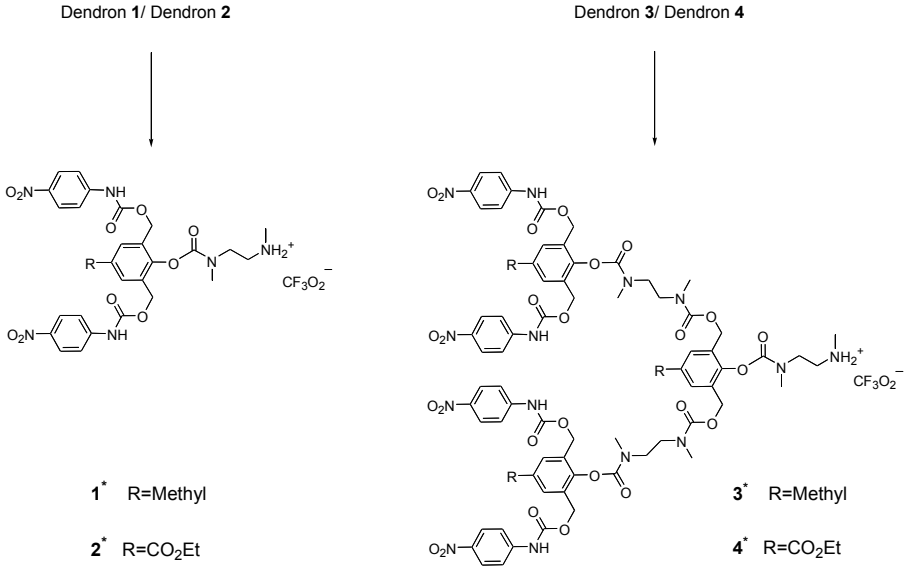
Supplementary Material (ESI) for New Journal of Chemistry

Substituent-Dependent Disassembly of Self-Immolative Dendrimers

Rotem Perry, Roey J. Amir and Doron Shabat*

School of Chemistry, Raymond and Beverly Sackler Faculty of Exact Sciences, Tel-Aviv University, Tel Aviv 69978 Israel

Dendron activation protocol. Deprotection of the boc protecting groups from dendrons **1-4** is illustrated in scheme 1.Dendrons **1-4** were deprotected with trifluoroacetic acid (TFA) and the corresponding salts (**1***-**4*****)** were used for the preparation of 10.0 mM stock solutions in DMSO. The stock solutions were diluted with MeOH and 10% triethylamine to give final concentrations of 500 μM of dendrons **1-4**. The disappearance of dendrons **1-4** monitored by an HPLC assay using C-18 reverse-phase analytical column; λ = 348 nm; flow: 1mL/min; eluent: MeCN:H_2O; gradient program: t=0 (30% MeCN/70% H_2O), t=20 (100% MeCN); t_R=12.22min (**1***); t_R=12.16 min (**2***); t_R=18.34 min (**3***); t_R=18.42 min (**4***); t_R=8.67 min (*p*-nitroaniline). The relative picks areas (in %) were used for the kinetic analysis. The disappearance of dendrons **1** and **2** is presented in Figure 1. The disassembly of dendron **2** occurred within a little bit more than one hour, while 25 hours were needed to complete the disassembly of dendron **1**. Similarly, Figure 2 shows that second-generation dendron **4** disassembled much faster than dendron **3** (50 hr for dendron **3** and only three hr for dendron **4**).



Scheme S1: Deprotection of dendrons **1-4** with TFA.

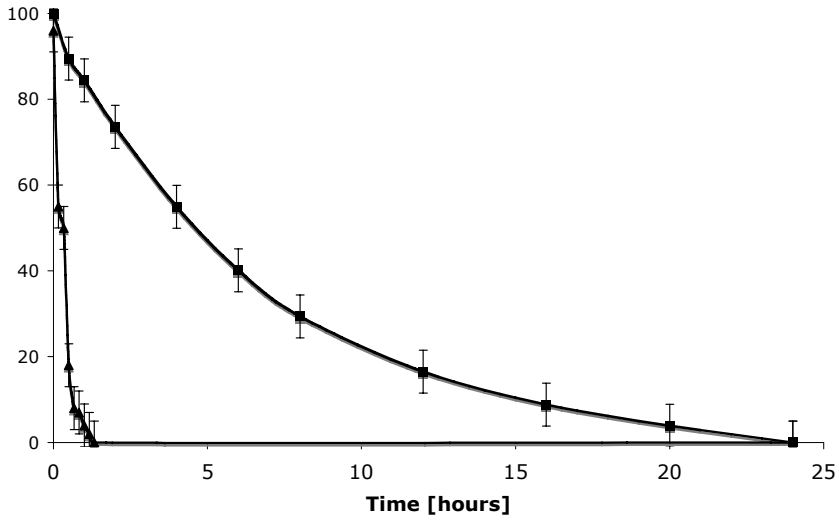


Figure S1: Disappearance of dendrons **1**(-▲-) and **2** (-■-) after chemical activation.

Starting concentration: 500μM; λ=348nm; 90% MeOH/10% Et_3N; room temperature.

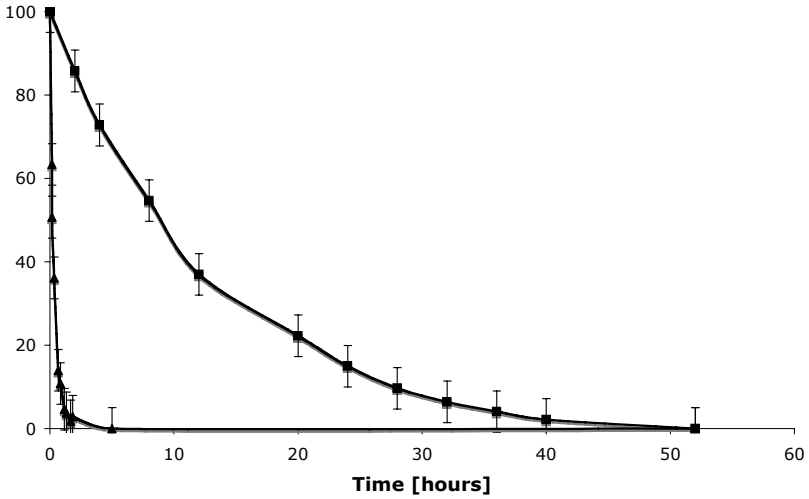


Figure S2: Disappearance of dendrons **3**(-▲-) and **4**(-■-) after chemical activation.

Starting concentration: 500μM; λ=348nm; 90% MeOH/10% Et_3N; room temperature.