Electronic Supplementary Material (ESI) for Soft Matter

Supplementary Material for

PAMAM Dendrimers as Quantized Building Blocks for Novel Nanostructures

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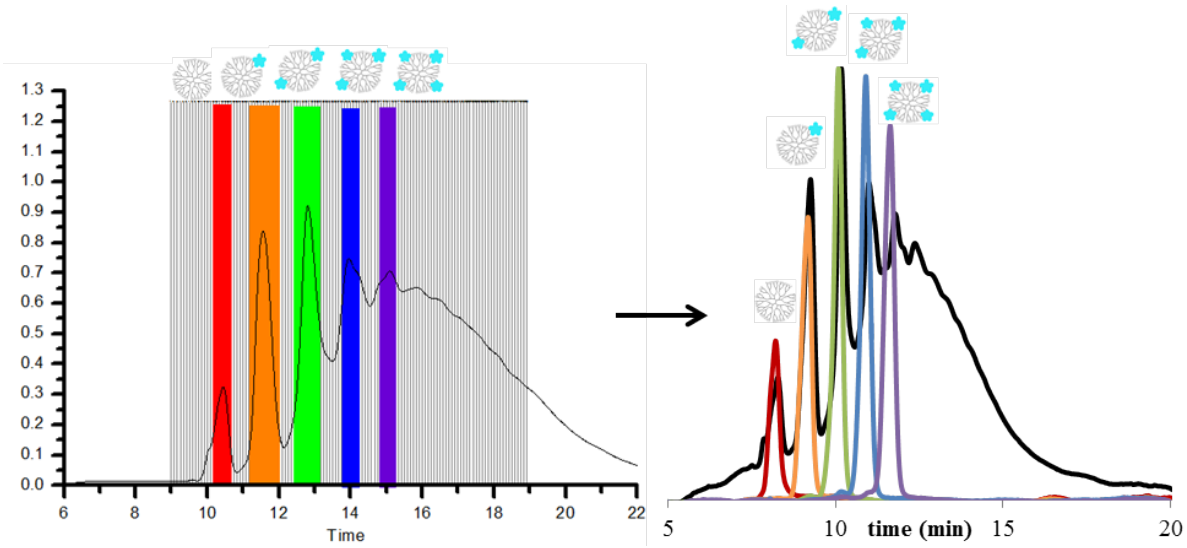

Figure S1. (left) Semi-prep HPLC isolation of precisely defined G5-Azide$_n$ species, colored bars represent combined fractions (right) Subsequent reinjection into a UPLC shows peaks do not recenter, analogous to the MFCO conjugate separation, indicating that each sample now contains a single, particular ligand/particle ratio.

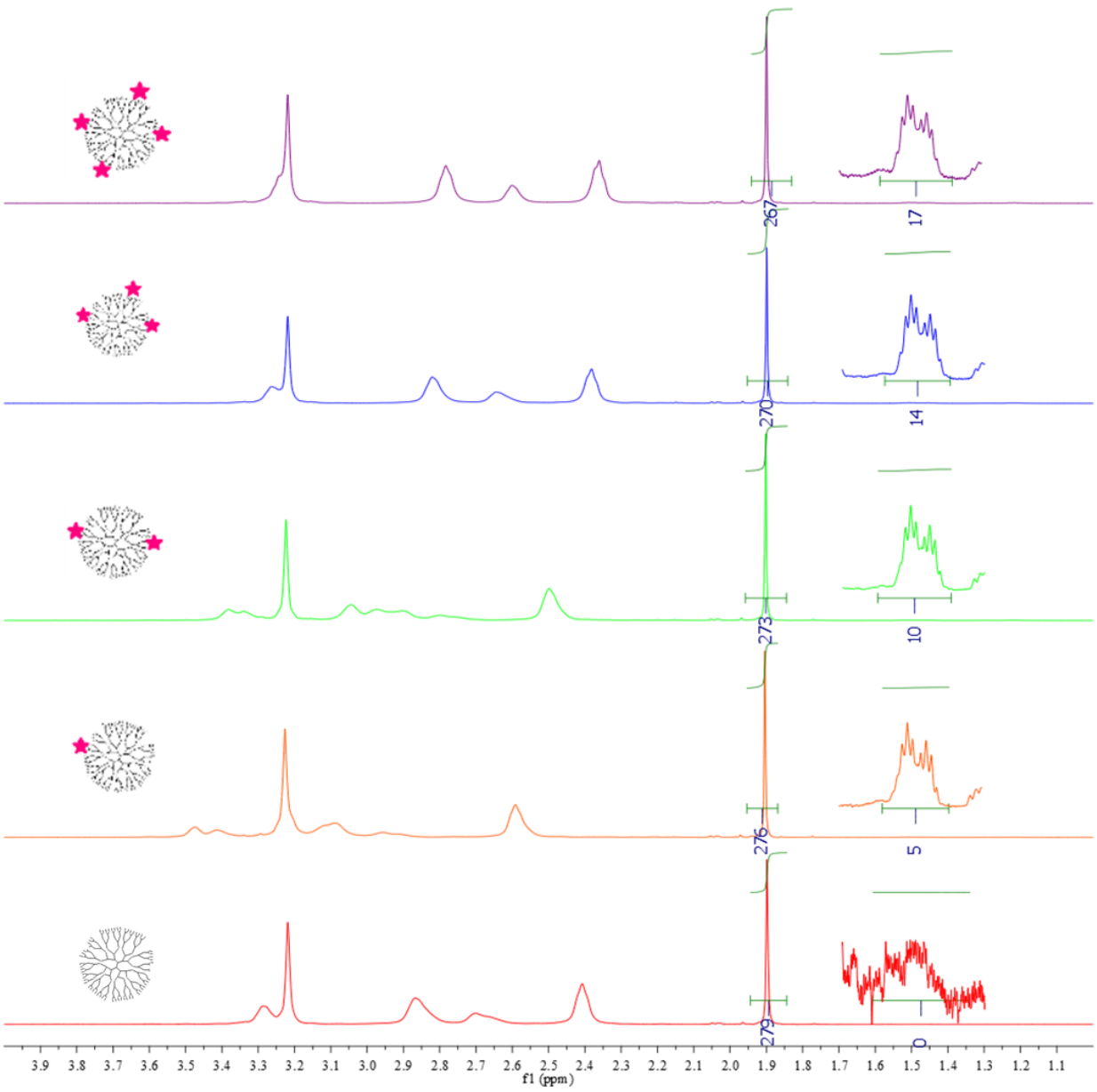

Figure S1. NMRs of G5-MFCO$_n$. Ratio between acetylated peak at 1.9 (3 protons per each of 93 primary amines as determined by potentiometric titration) compared to 5 protons between 1.5 and 1.3 on MFCO ligand.

n	avg (by NMR)	avg (by UPLC)	% Purity (UPLC)	% Recovered
0	0.0	0.0	>95%	47%
1	1.0	1.0	>95%	58%
2	2.0	2.0	>95%	77%
3	2.8	3.0	>95%	46%
4	3.4	4.0	>95%	43%

Table S1. Quantitative summary of G5-MFCO$_n$ HPLC separation.

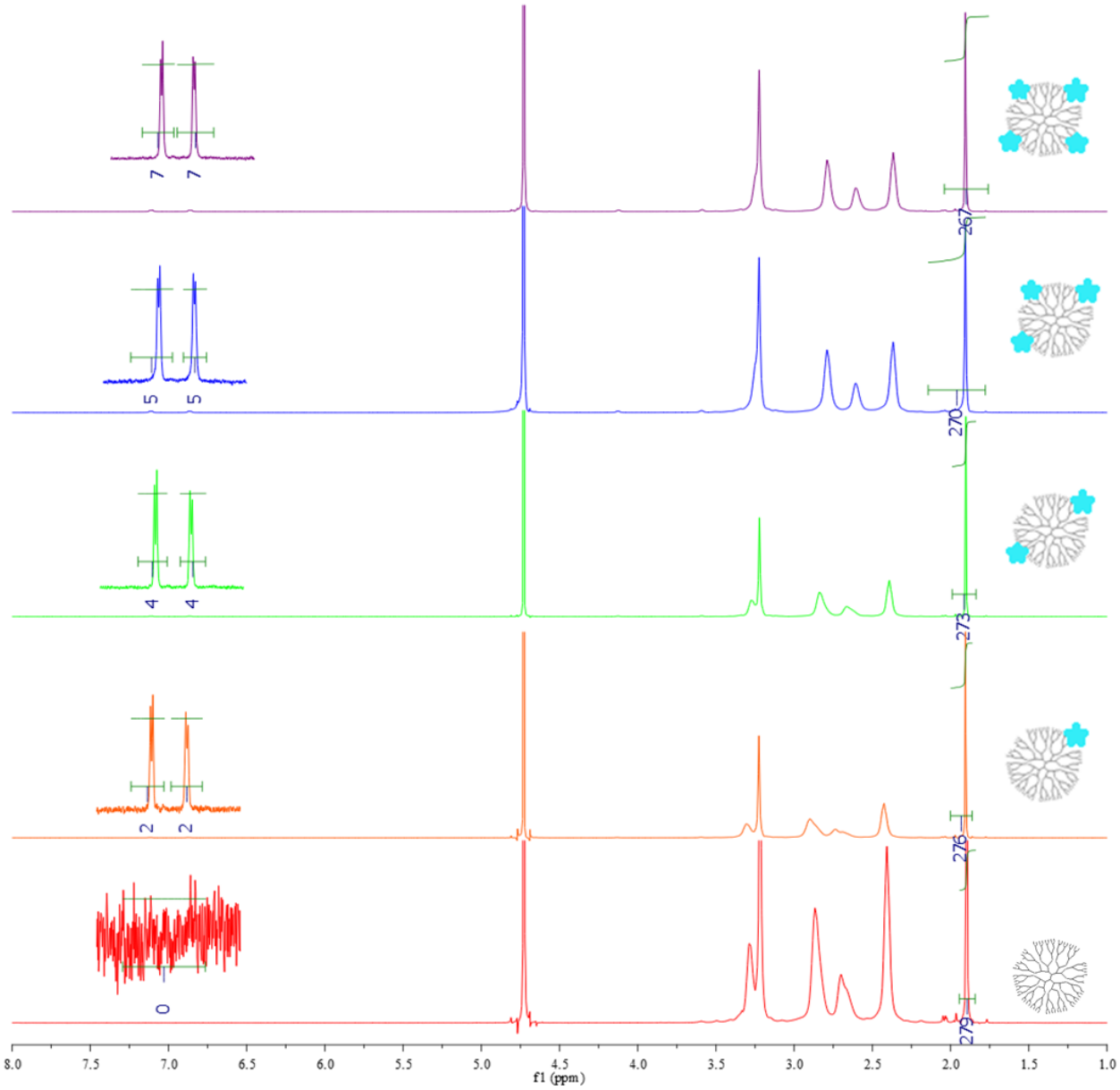

Figure S3. NMRs of G5-Azide$_n$. Ratio between acetylaed peak at 1.9 and the aromatic peaks of the azide ligand.

n	avg (by NMR)	avg (by UPLC)	% Purity (UPLC)	% Recovered
0	0.0	0.0	>95%	59%
1	1.0	1.0	>95%	70%
2	2.0	2.0	>95%	41%
3	2.5	3.0	>95%	38%
4	3.5	4.0	>95%	33%

Table S2. Quantitative summary of G5-Azide$_n$ HPLC separation.

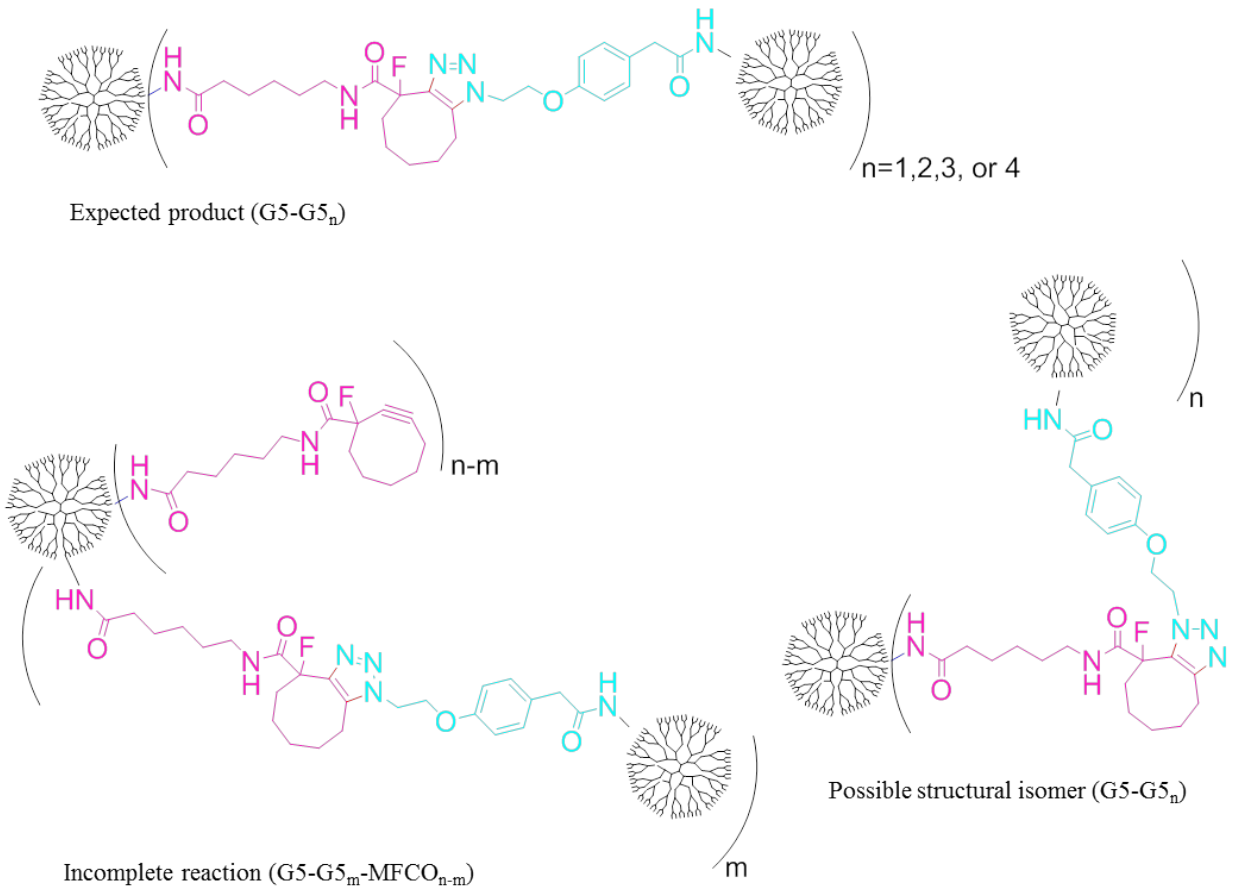

Figure S4. Possible side products of click reaction.