

## **Electronic Supplementary Information belonging to the paper:**

### **Polycationic triazine-based dendrimers: Effect of peripheral groups on transfection efficiency**

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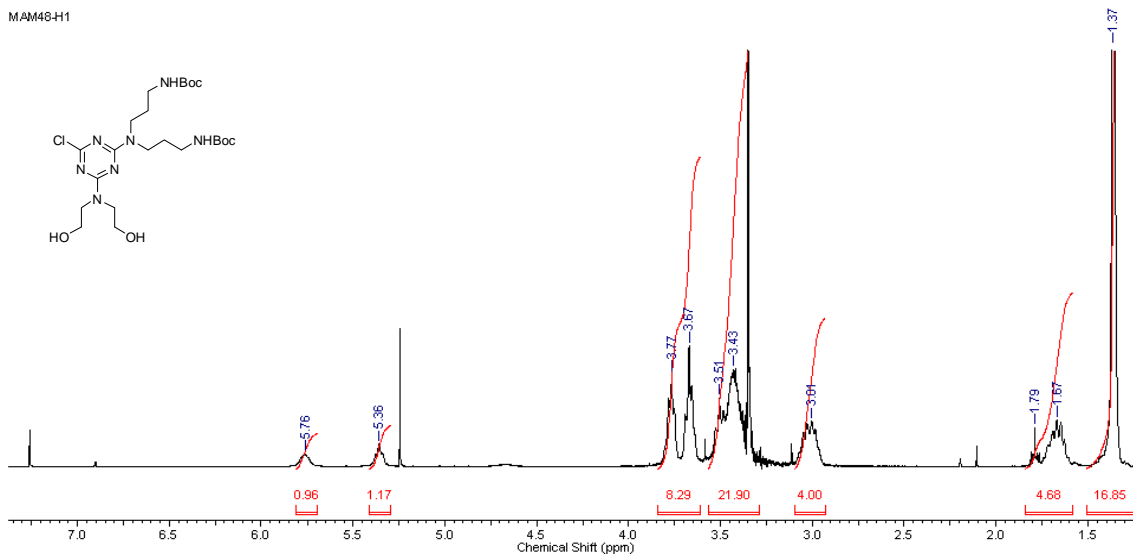
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<sup>b</sup> *Department of Pharmaceutics and Biopharmacy, Philipps-Universität Marburg, Ketzerbach 63, D-35032 Marburg, Germany. Fax: +49-6421-282 7016; Tel: +49-6421-282 5881; E-mail: [kissel@staff.uni-marburg.de](mailto:kissel@staff.uni-marburg.de)*

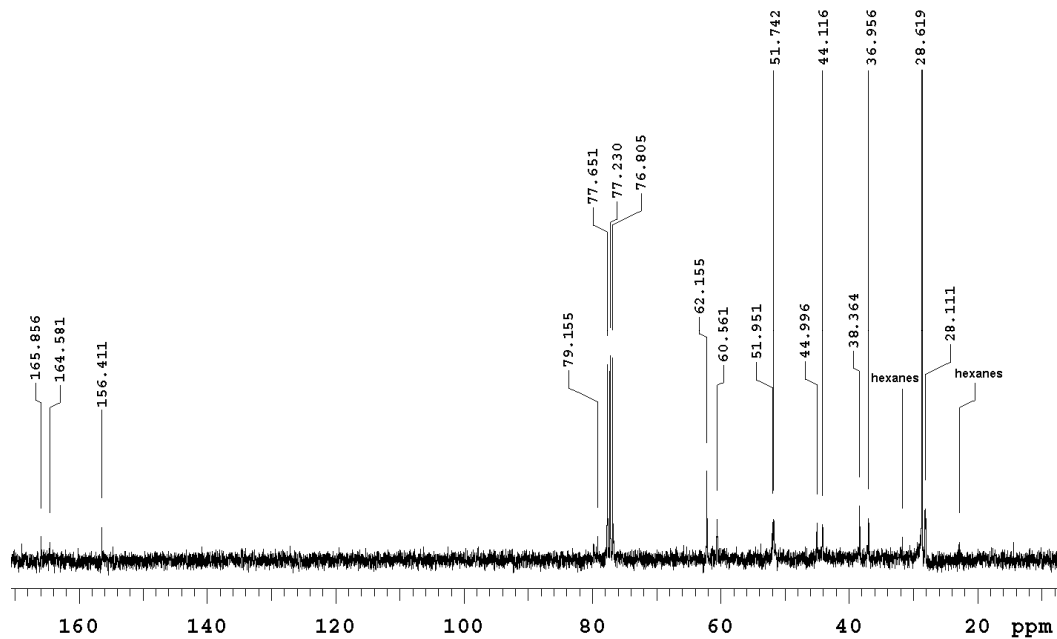
<sup>1</sup> *Both authors contributed equally to this work with synthesis (MAM) and biological and physico-chemical characterization (OMM)*

## <sup>1</sup>H NMR Spectrum Monochlorotriazine 1

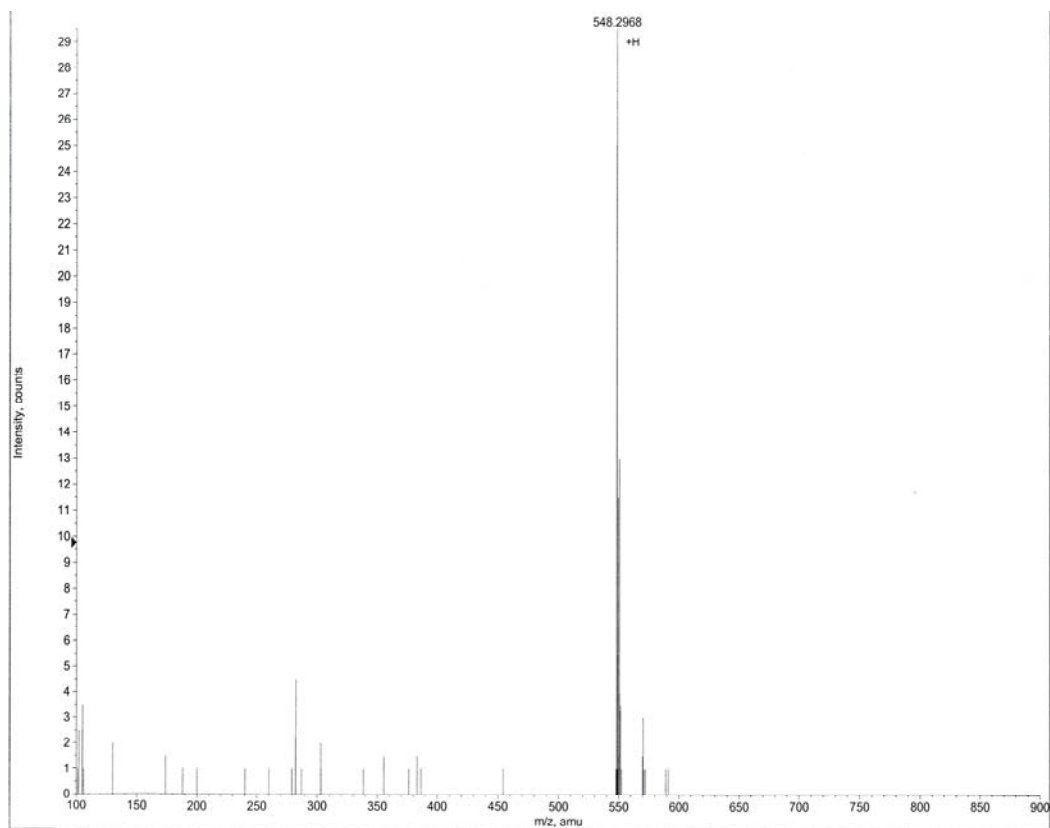
MAM48-H1



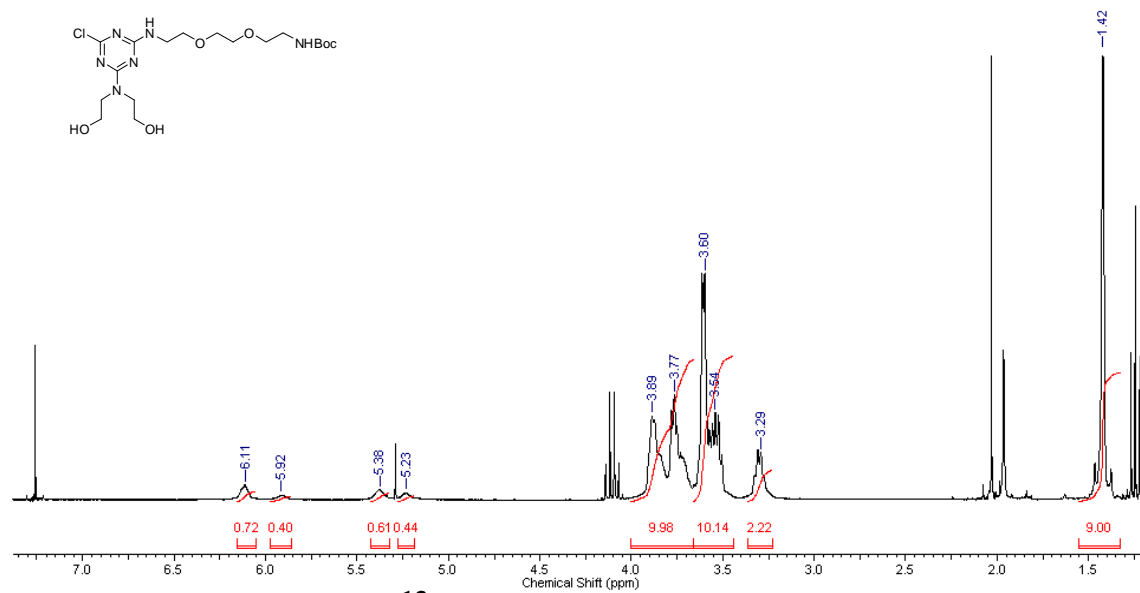
## <sup>13</sup>C NMR Spectrum Monochlorotriazine 1



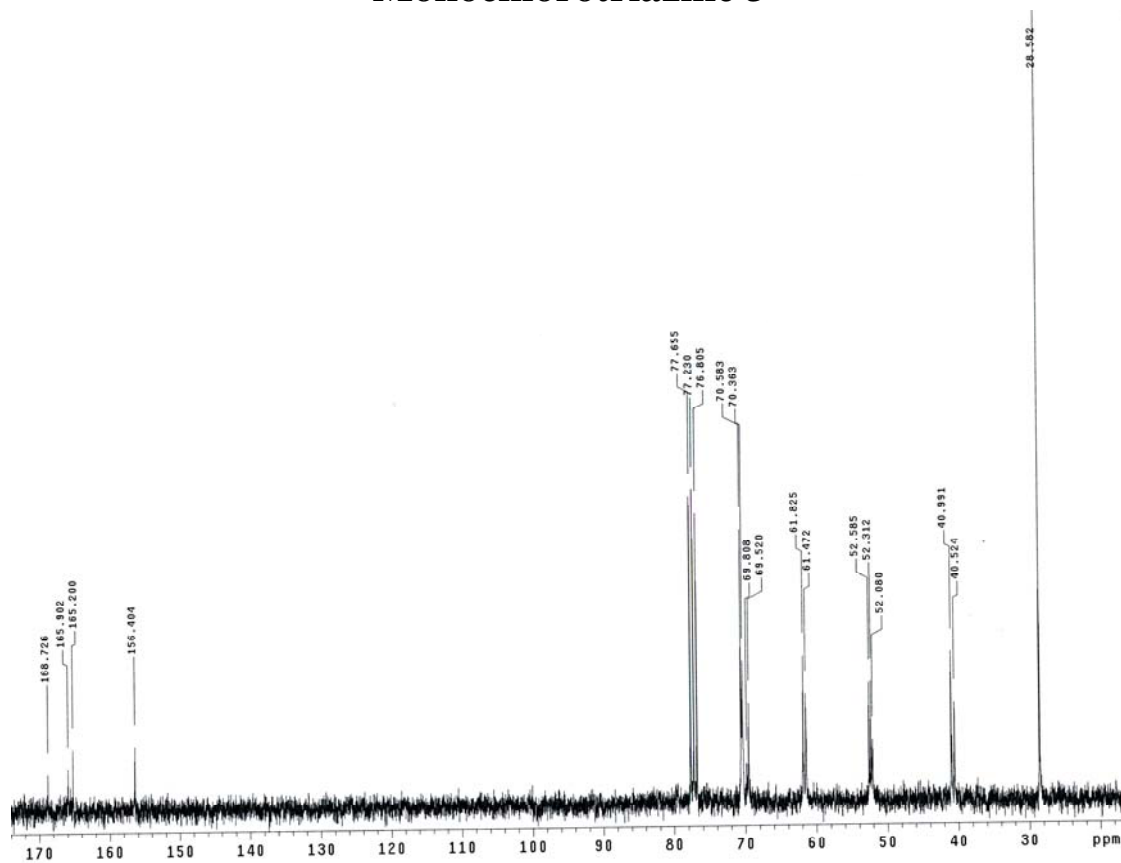
## Mass Spectrum Monochlorotriazine 1



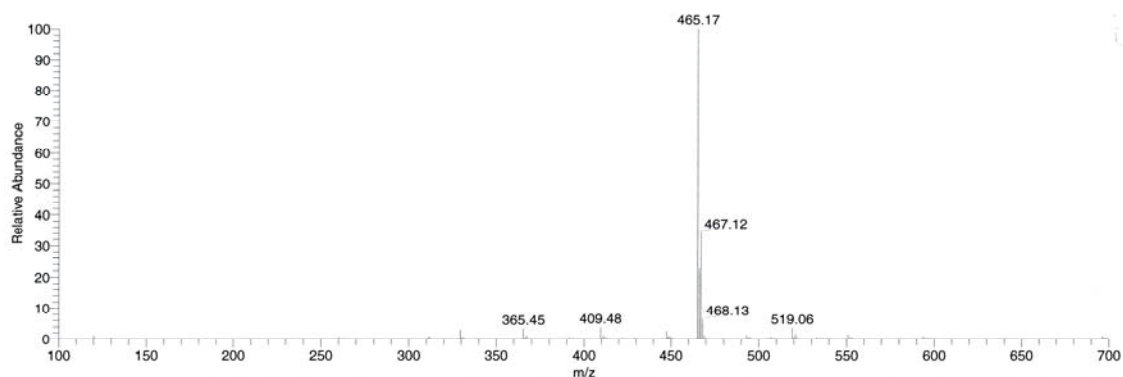
## <sup>1</sup>H NMR Spectrum Monochlorotriazine 3



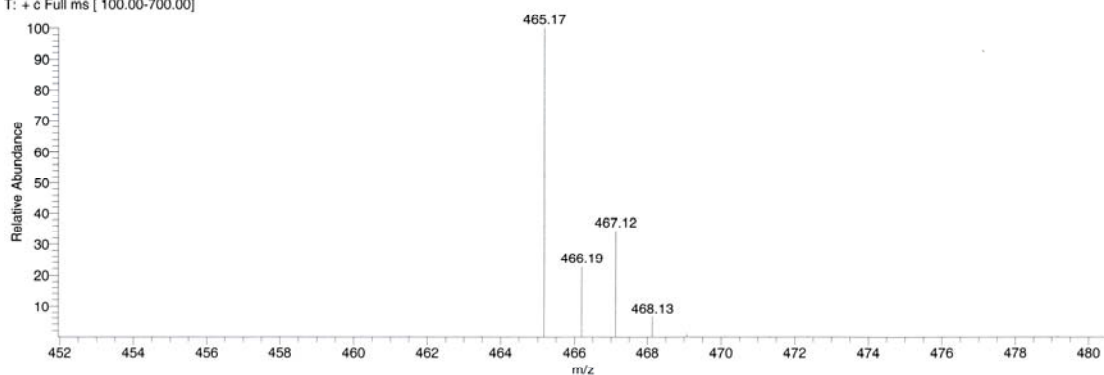
## <sup>13</sup>C NMR Spectrum Monochlorotriazine 3



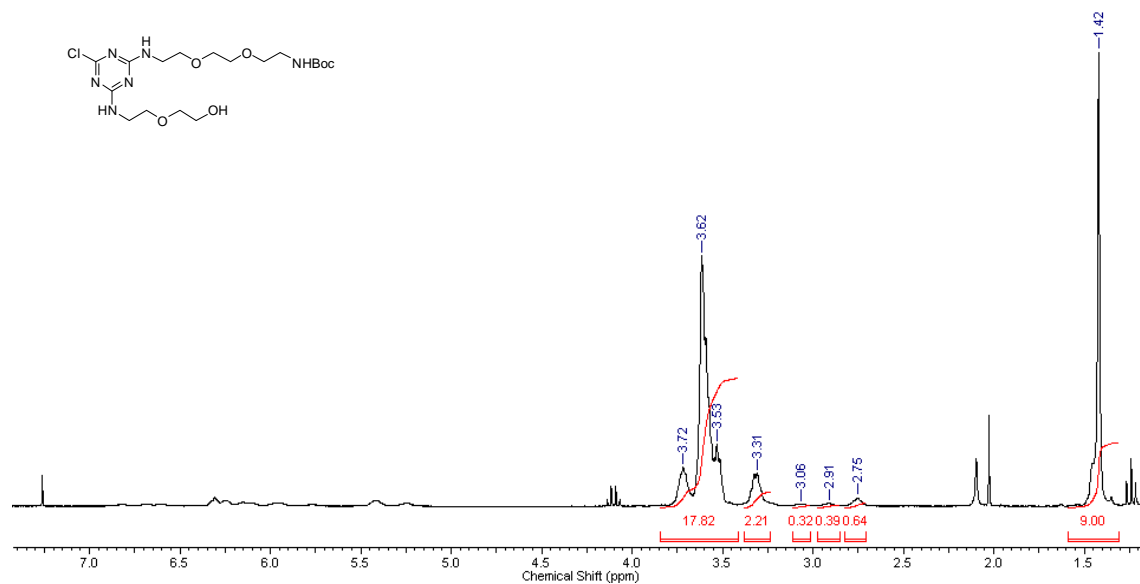
## Mass Spectrum Monochlorotriazine 3



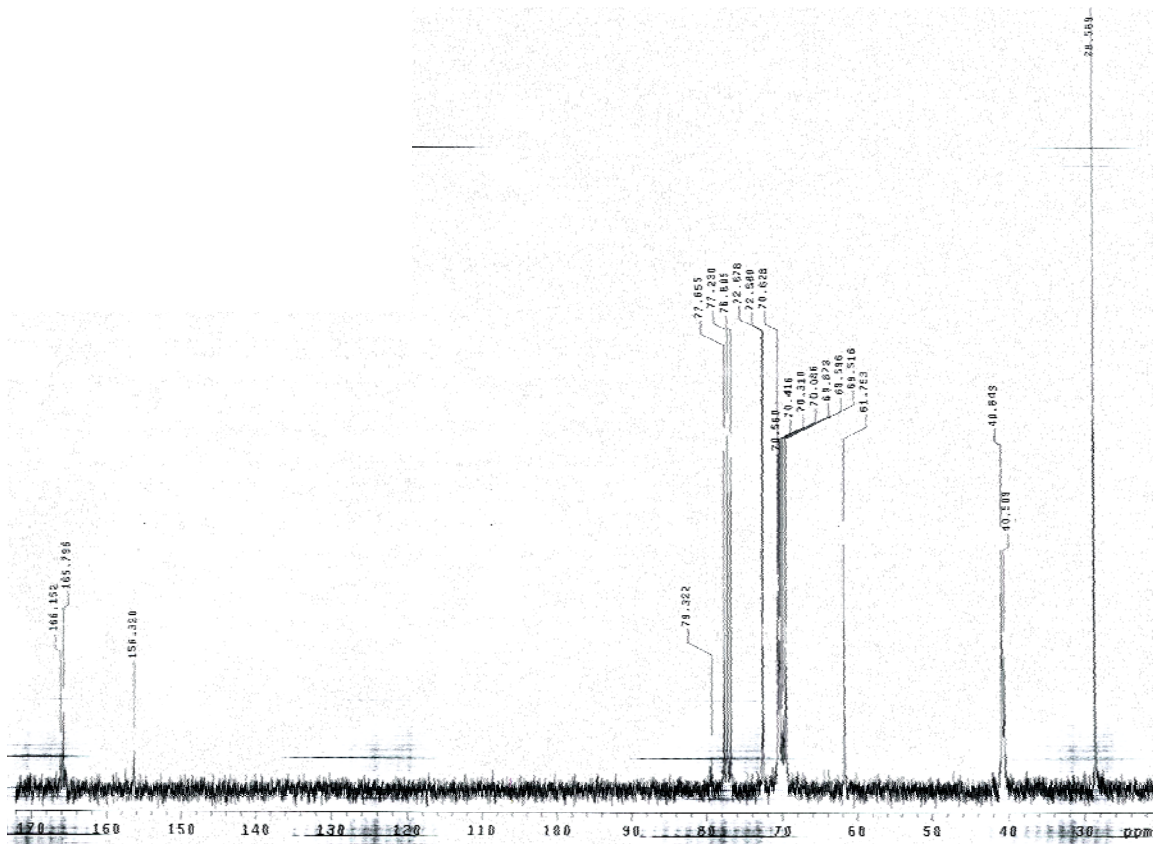
01040717 #27 RT: 0.33 AV: 1 NL: 2.71E9  
T: + c Full ms [ 100.00-700.00]



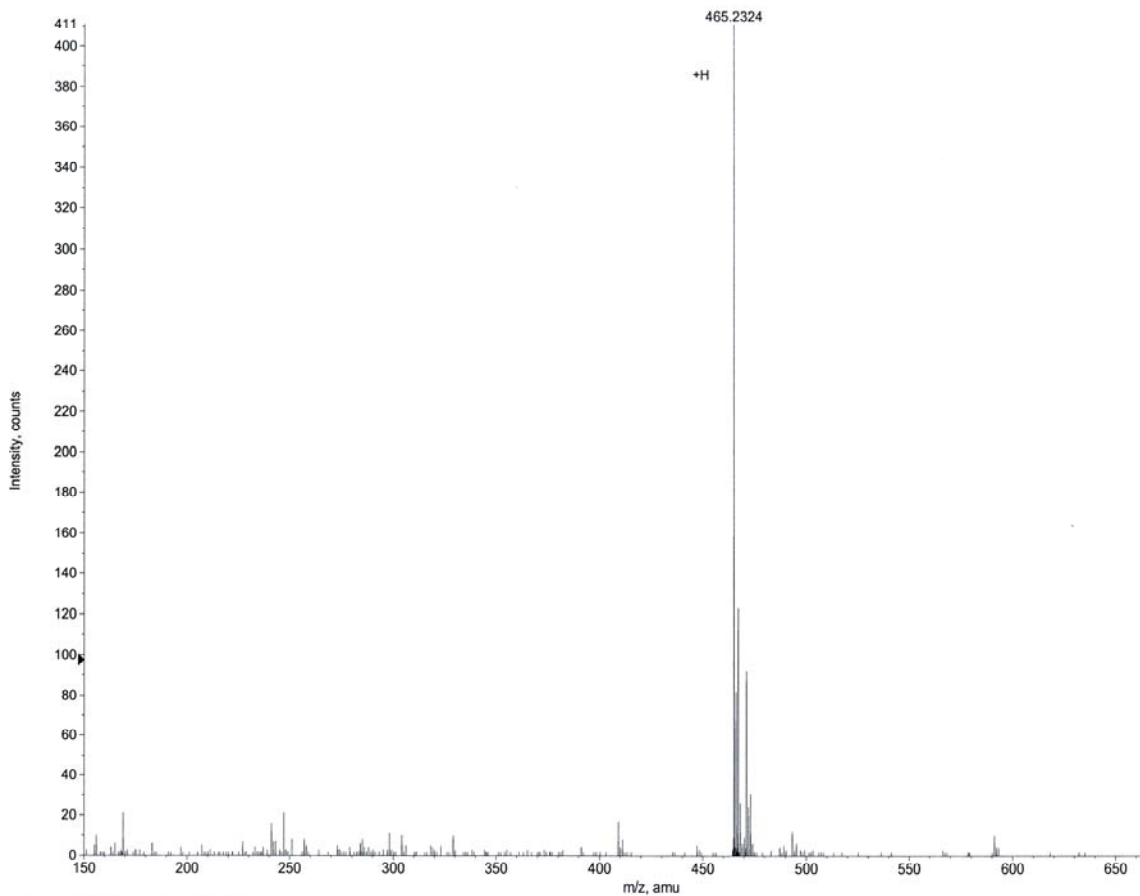
## <sup>1</sup>H NMR Spectrum Monochlorotriazine 4



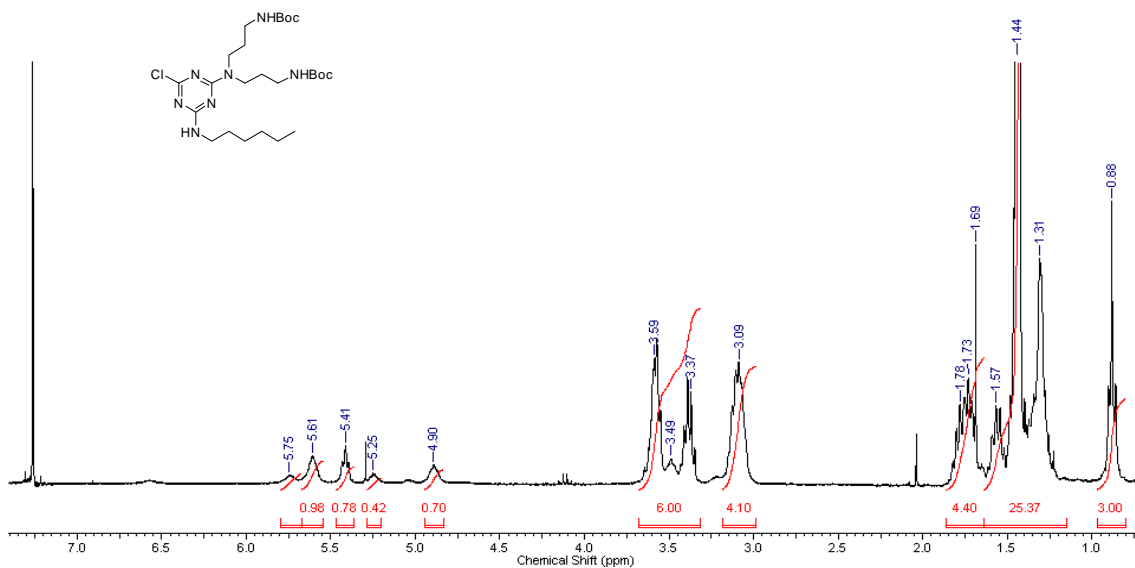
## <sup>13</sup>C NMR Spectrum Monochlorotriazine 4



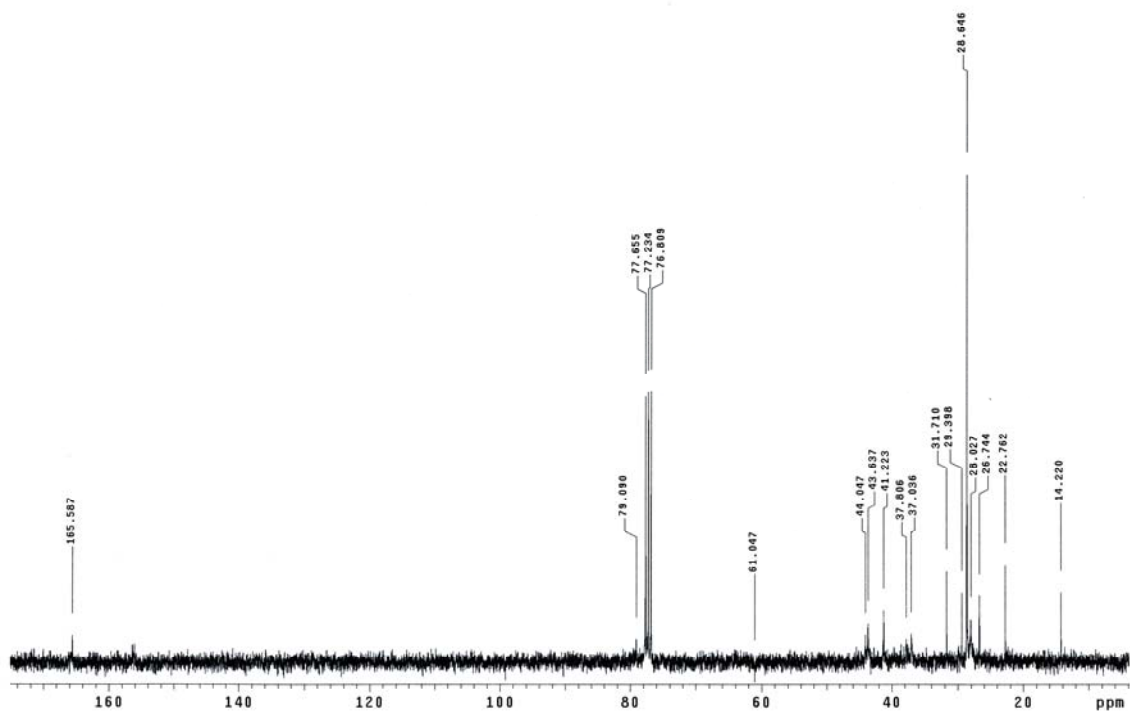
## Mass Spectrum Monochlorotriazine 4



## <sup>1</sup>H NMR Spectrum Monochlorotriazine 5

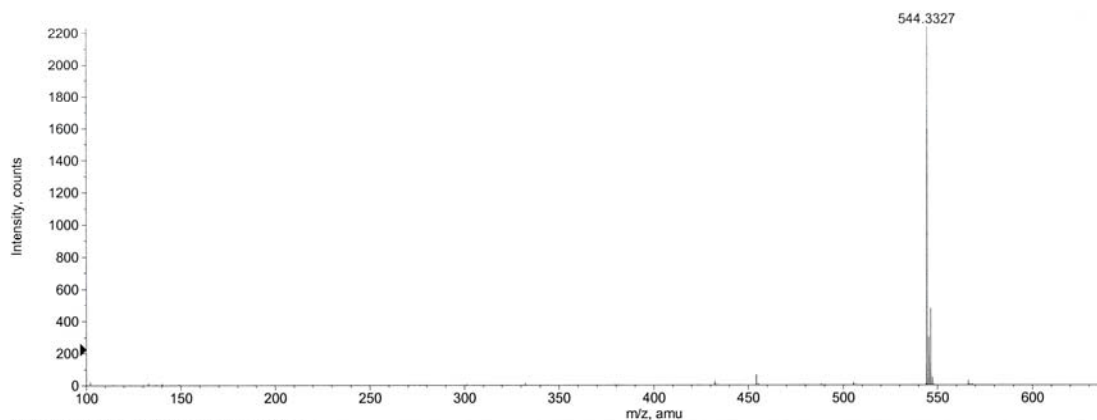


## <sup>13</sup>C NMR Spectrum Monochlorotriazine 5

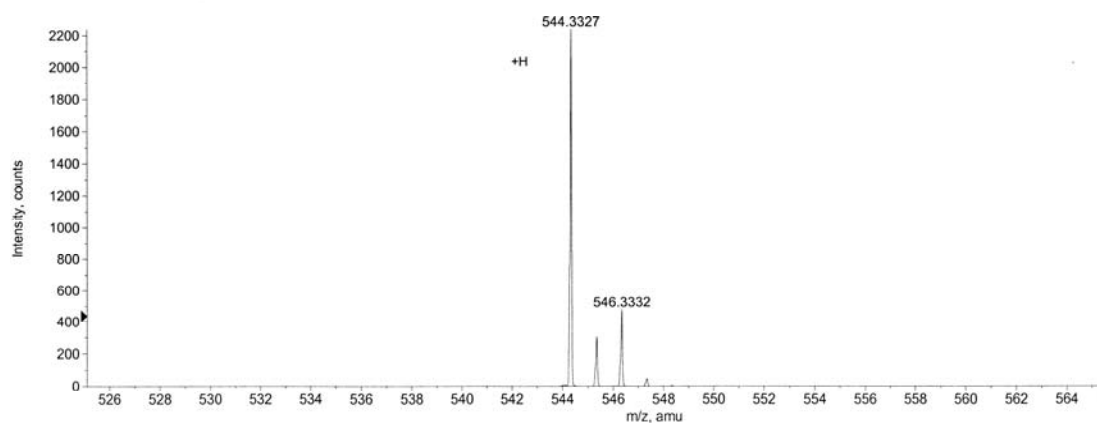




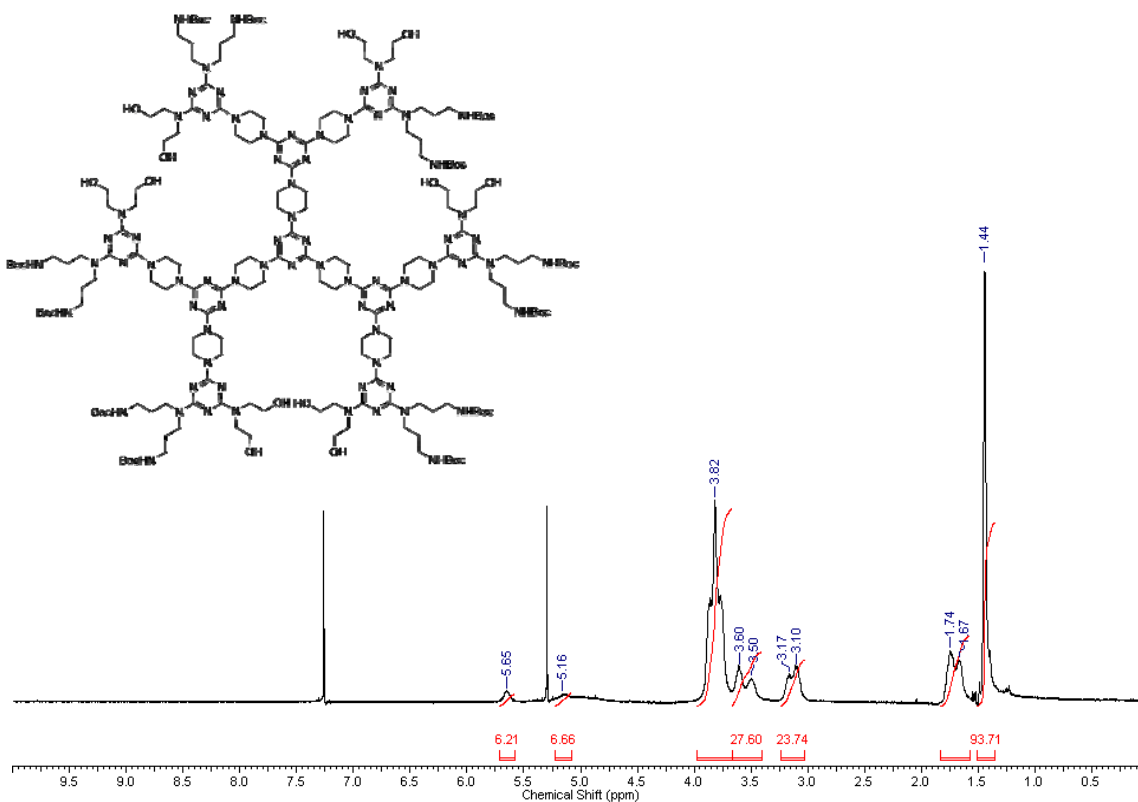
## Mass Spectrum Monochlorotriazine 5



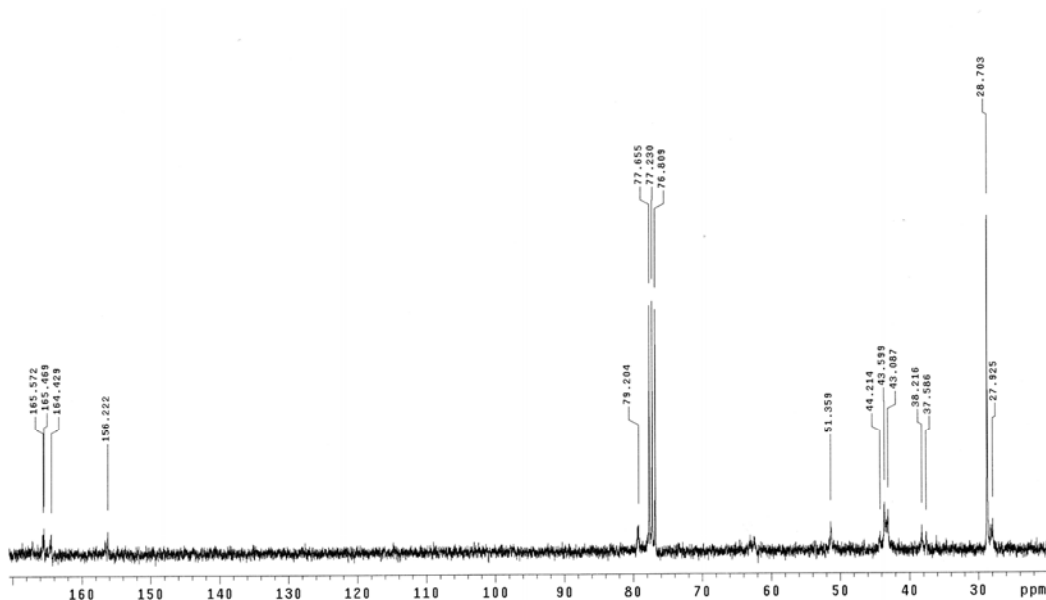
+TOF MS: 0.833 to 0.933 min from 04160704.wiff  
a=3.55533986961586570e-004, 10=4.56561119829857490e+001



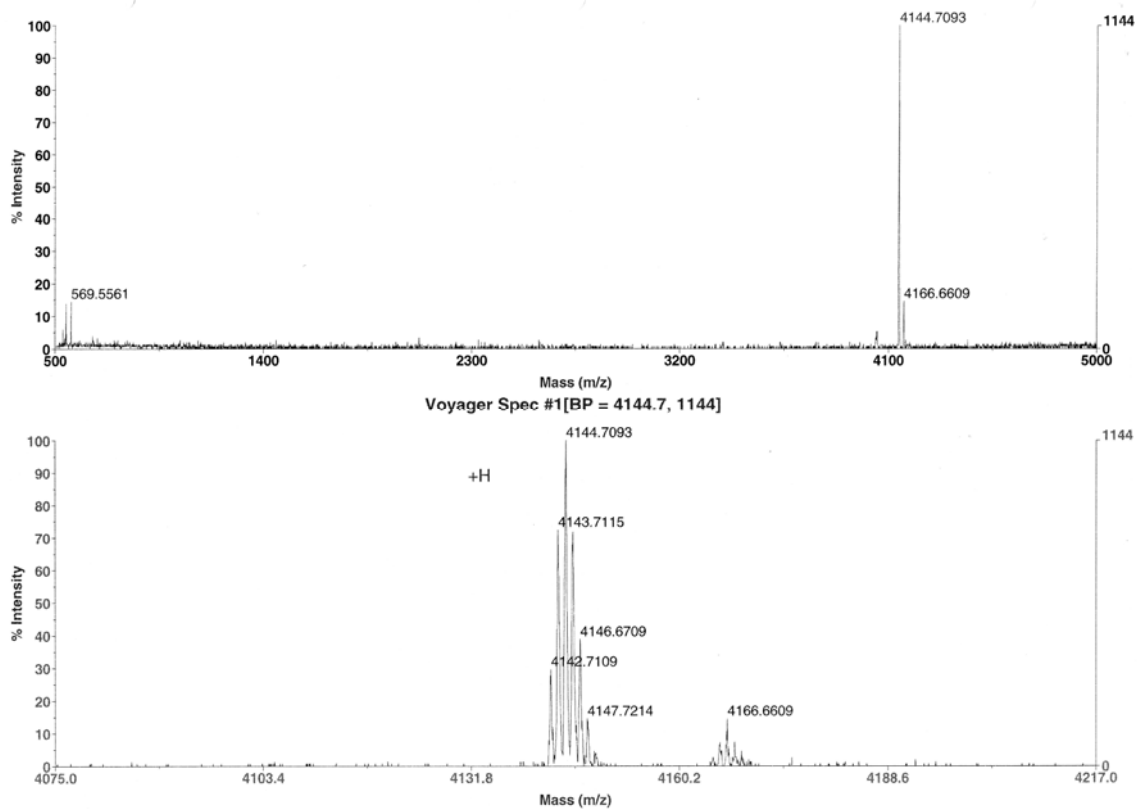
## $^1\text{H}$ NMR Spectrum Protected G2-1 Dendrimer



## $^{13}\text{C}$ NMR Spectrum Protected G2-1 Dendrimer

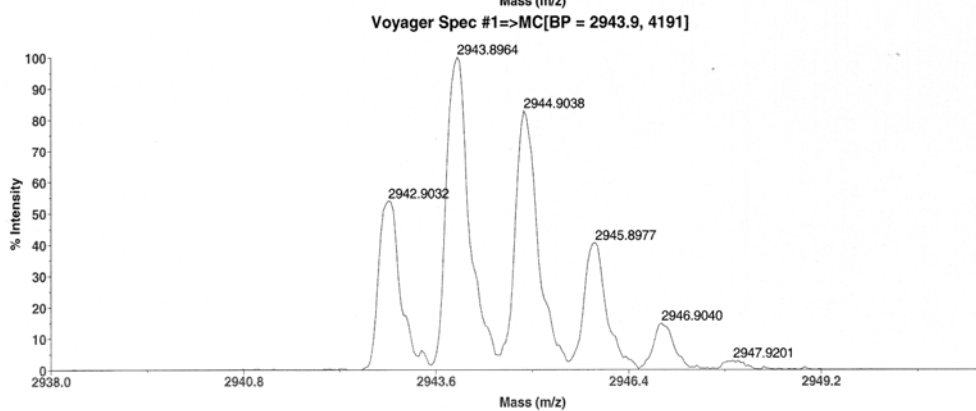
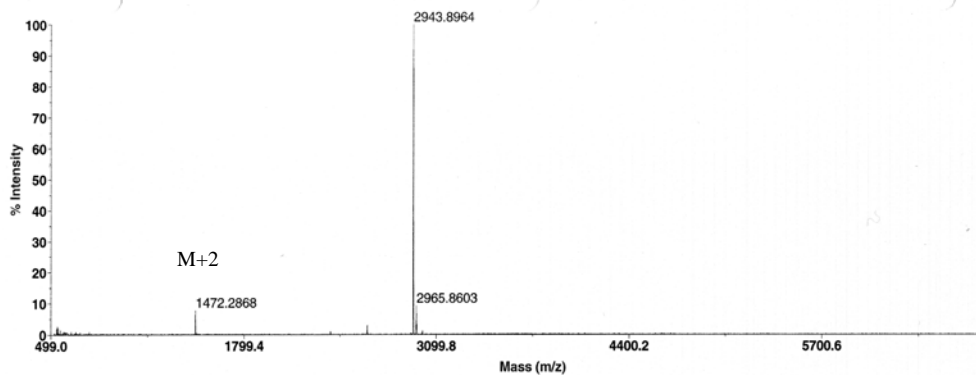


## Mass Spectrum Protected G2-1 Dendrimer

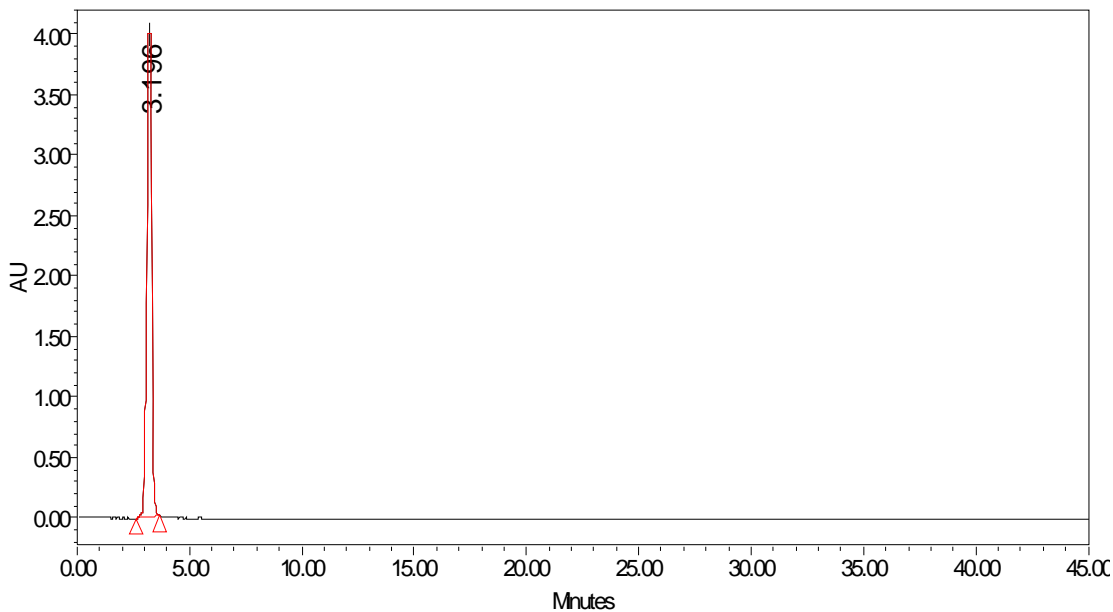


Additional peak seen at 4043.92 corresponds to the loss of one Boc group.

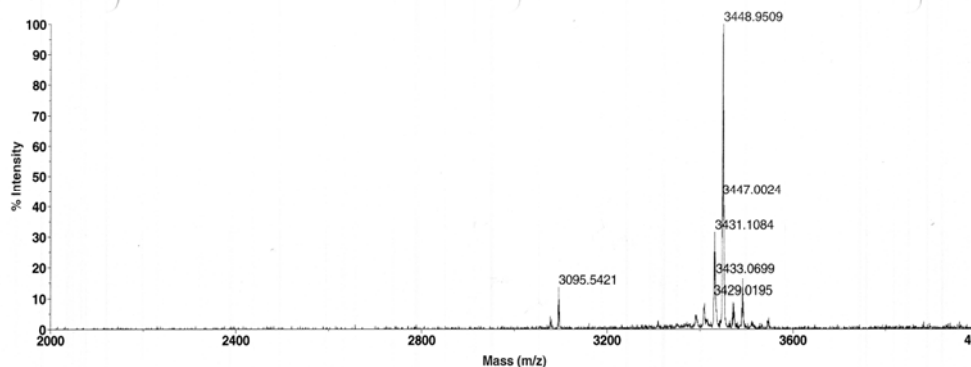
## Mass Spectrum G2-1 Dendrimer



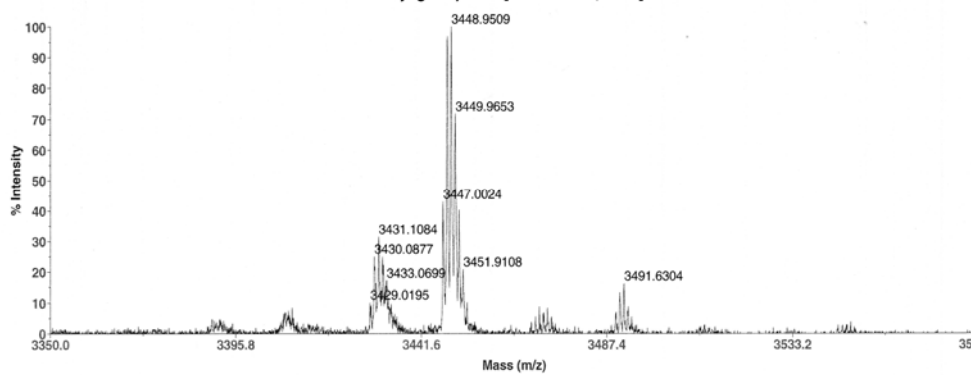
## HPLC G2-1 Dendrimer



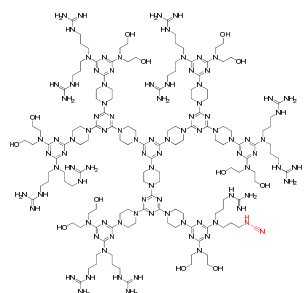
## Mass Spectrum G2-1g Dendrimer



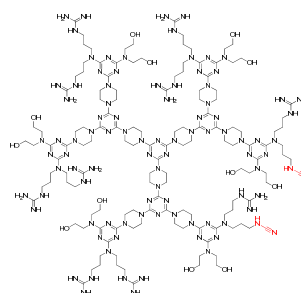
Voyager Spec #1[BP = 3449.0, 4254]



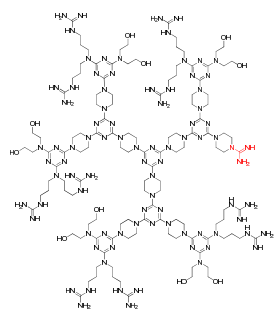
### ADDITIONAL PEAKS



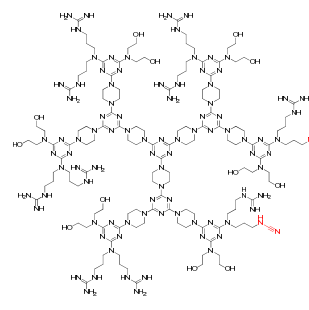
3429.18 → loss of ammonia



3412.15 → loss of two ammonia

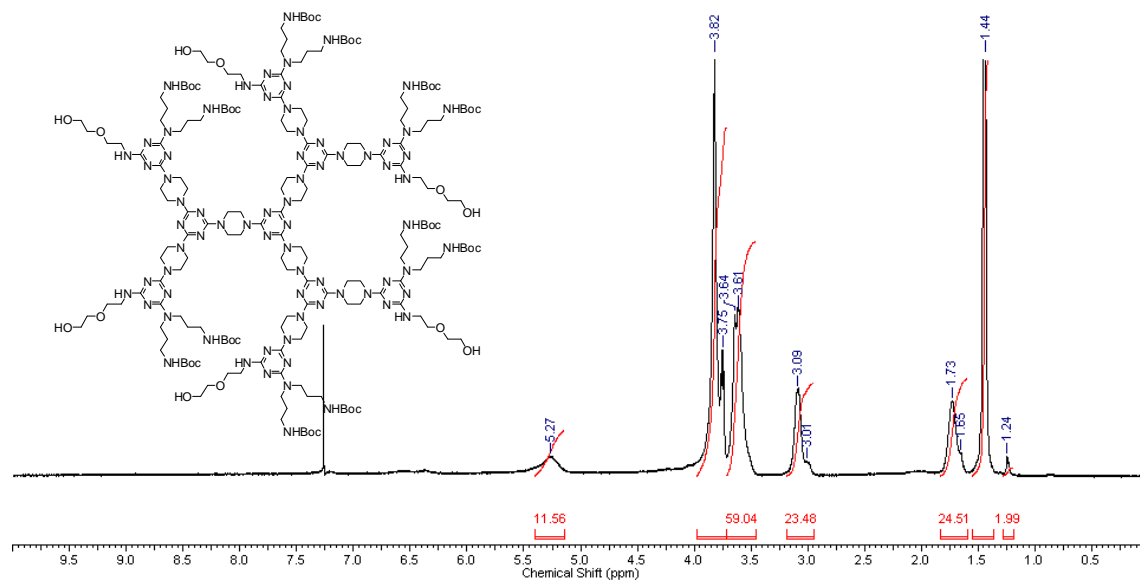


3092.98 → guanidinylation of piperazine

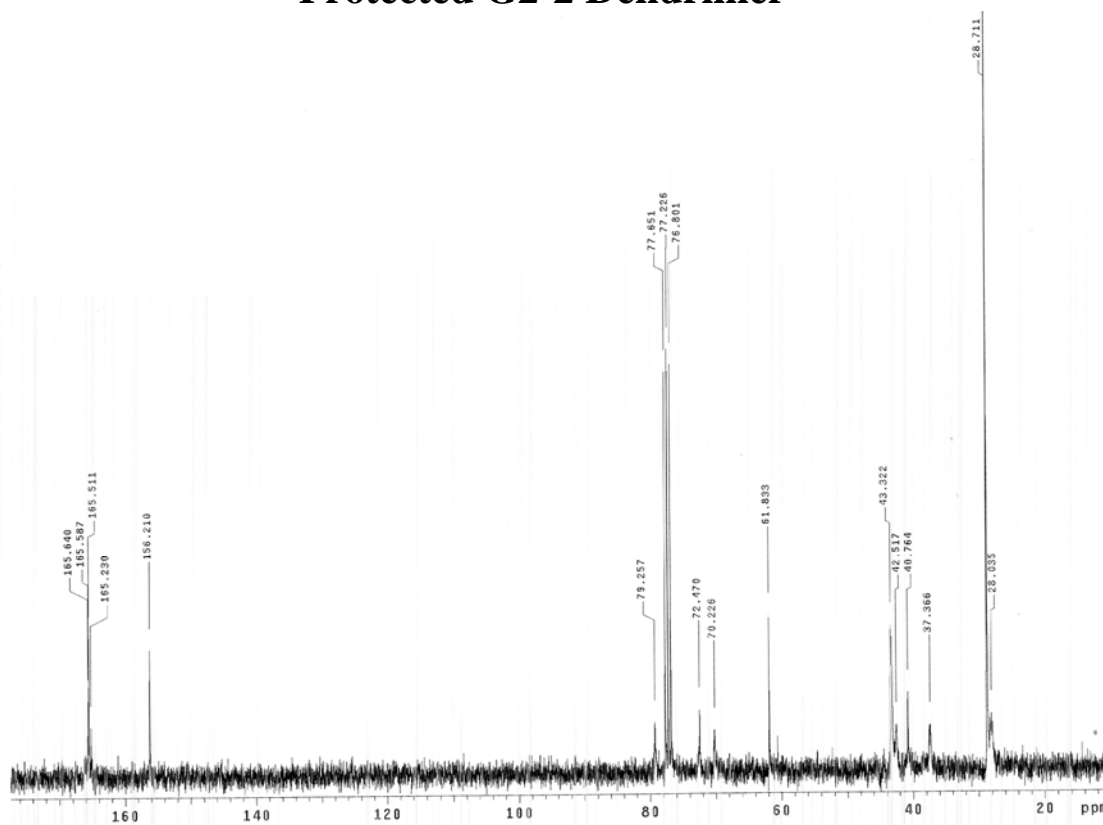


3387.16 → loss of ammonia and carbodiimide

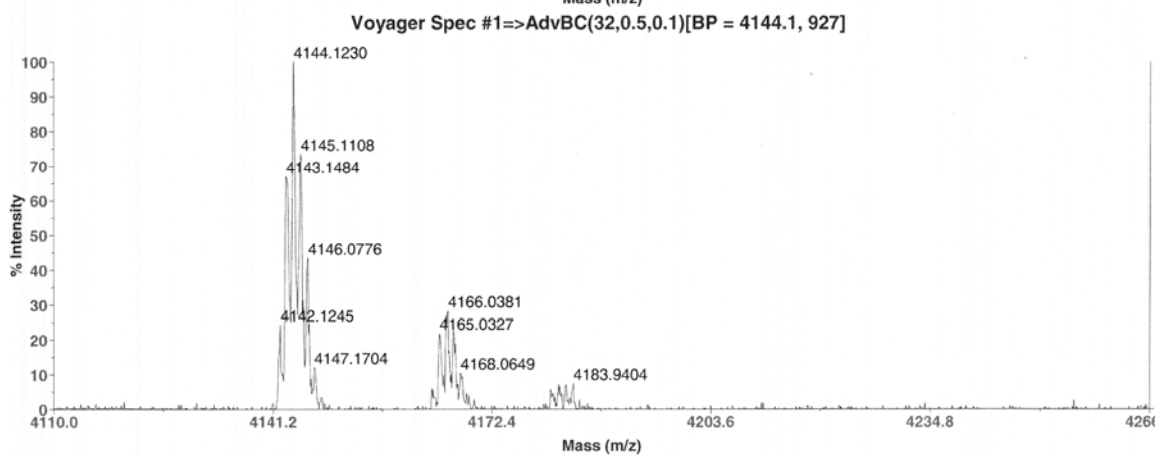
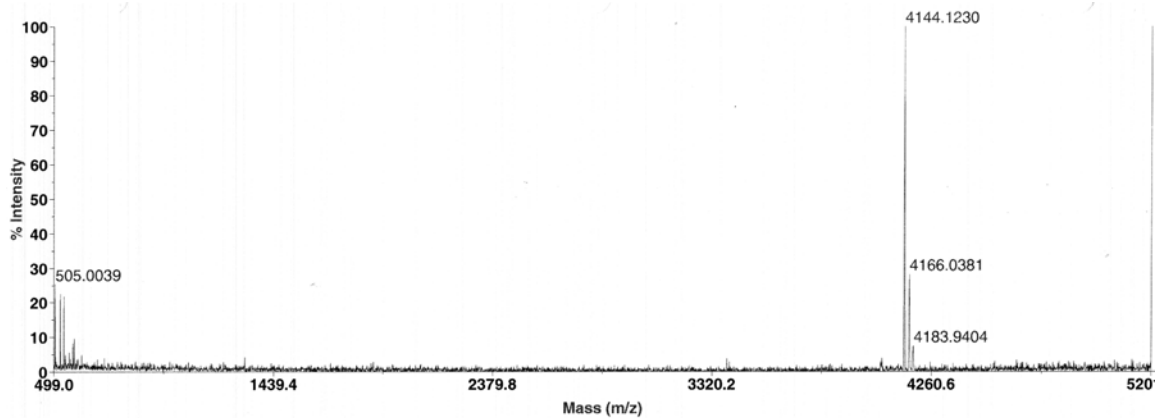
## <sup>1</sup>H NMR Spectrum Protected G2-2 Dendrimer



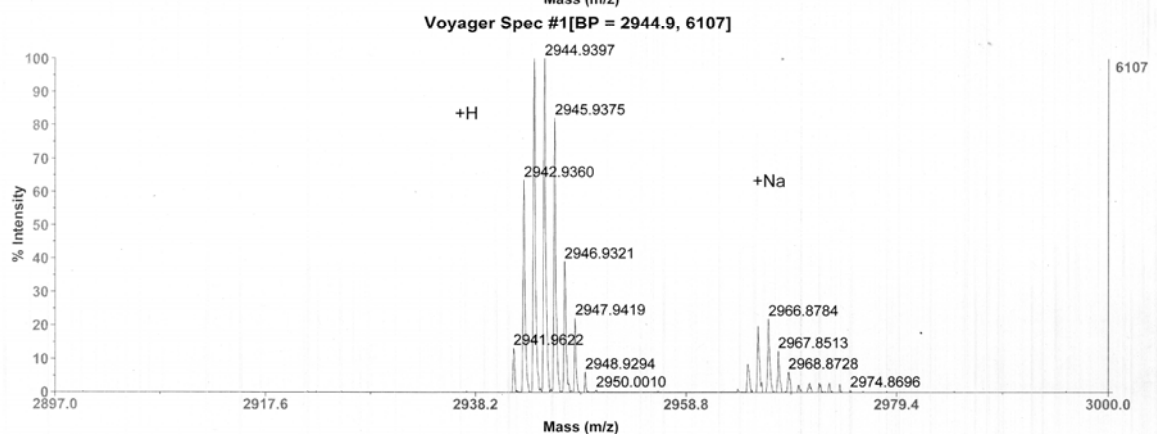
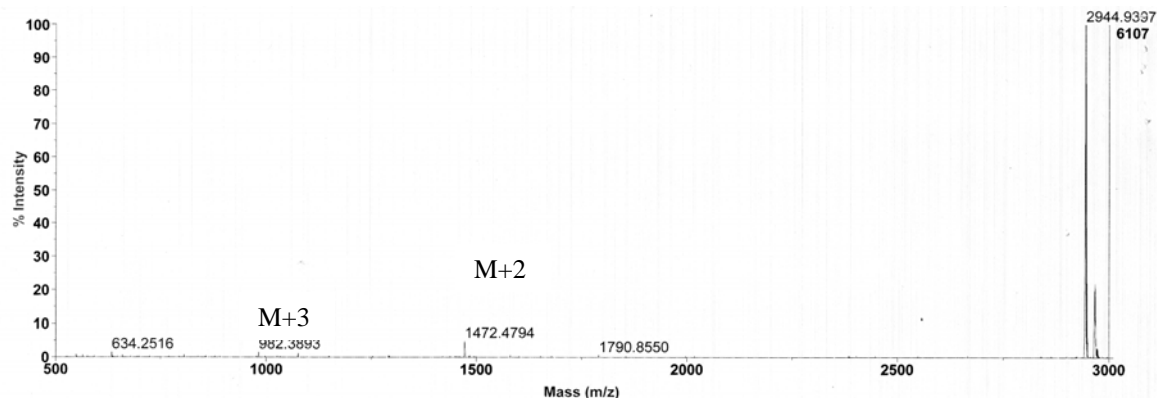
## <sup>13</sup>C NMR Spectrum Protected G2-2 Dendrimer



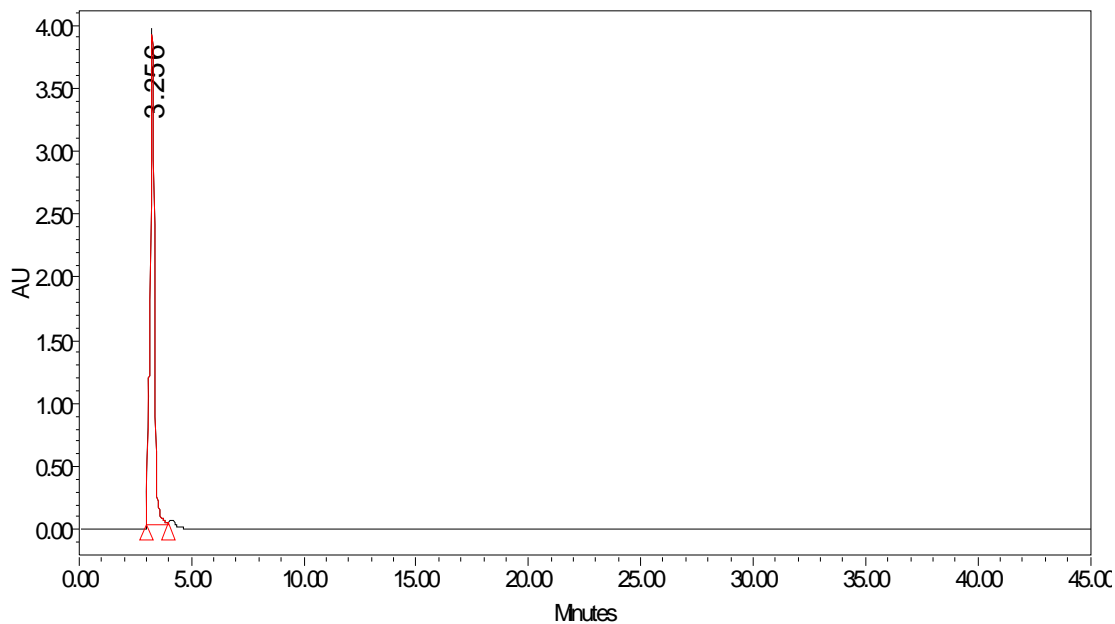
## Mass Spectrum Protected G2-2 Dendrimer



## Mass Spectrum G2-2 Dendrimer

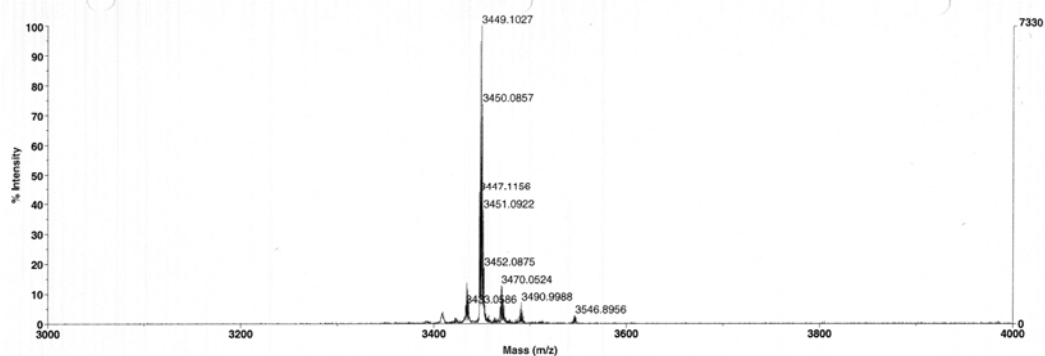


## HPLC

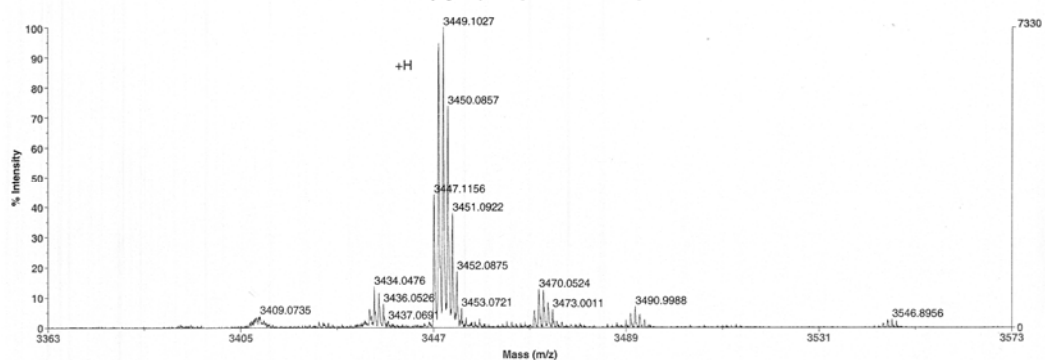




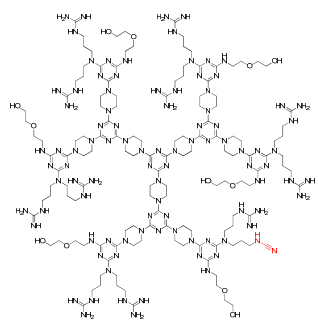
## Mass Spectrum G2-2g Dendrimer



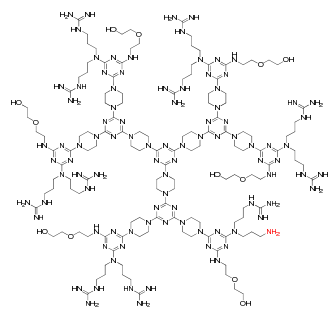
Voyager Spec #1[BP = 3449.1, 7330]



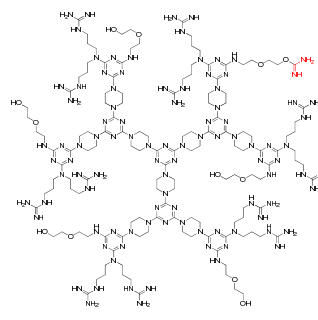
### ADDITIONAL PEAKS



3429.18 → loss of ammonia

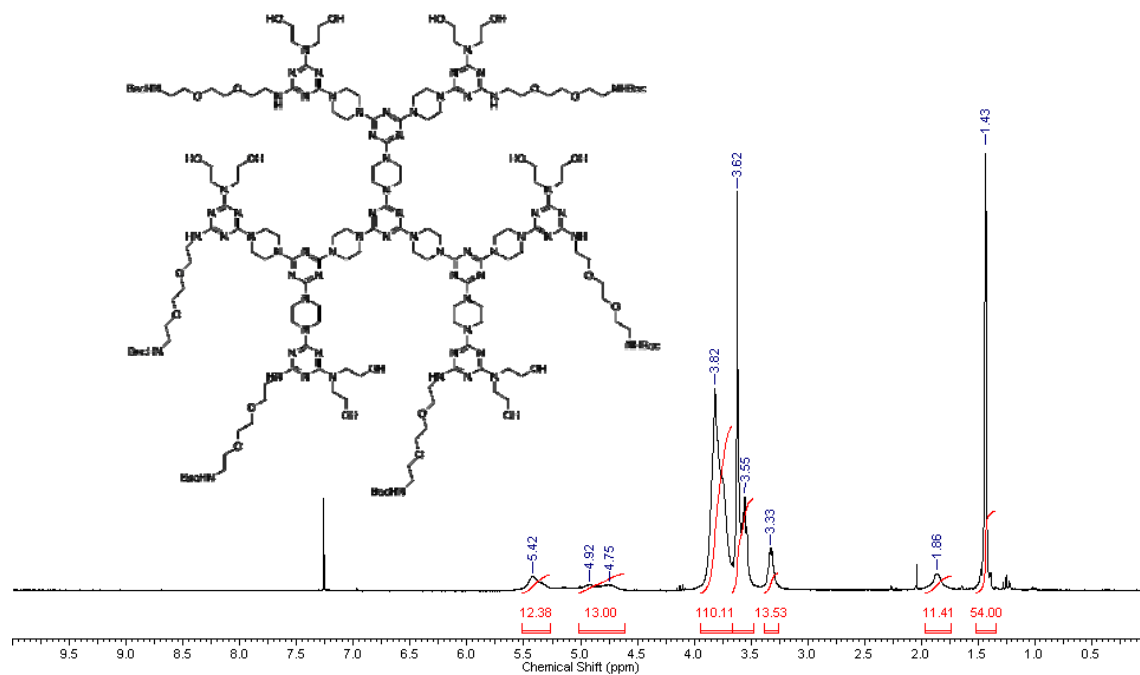


3404.18 → loss of carbodiimide

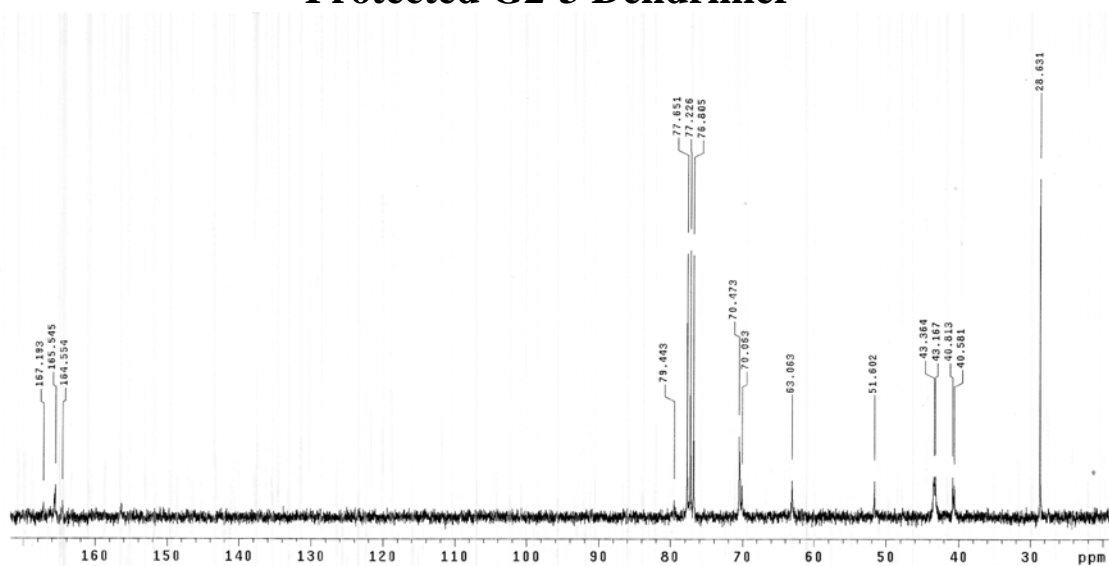


3488.23 → alcohol reacted

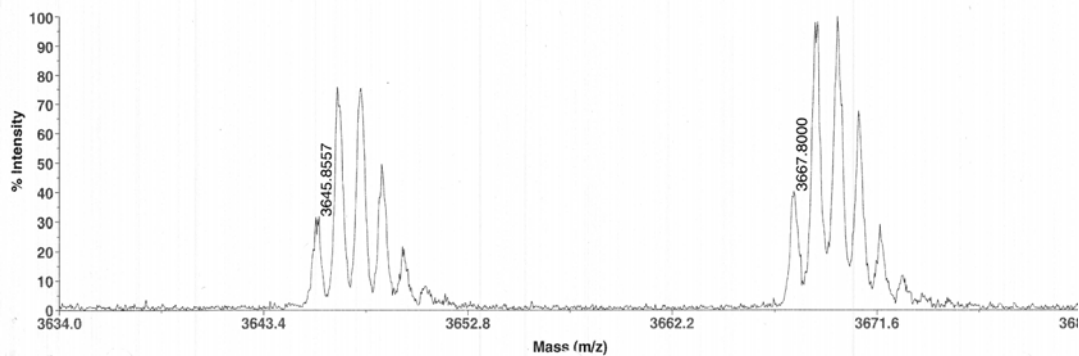
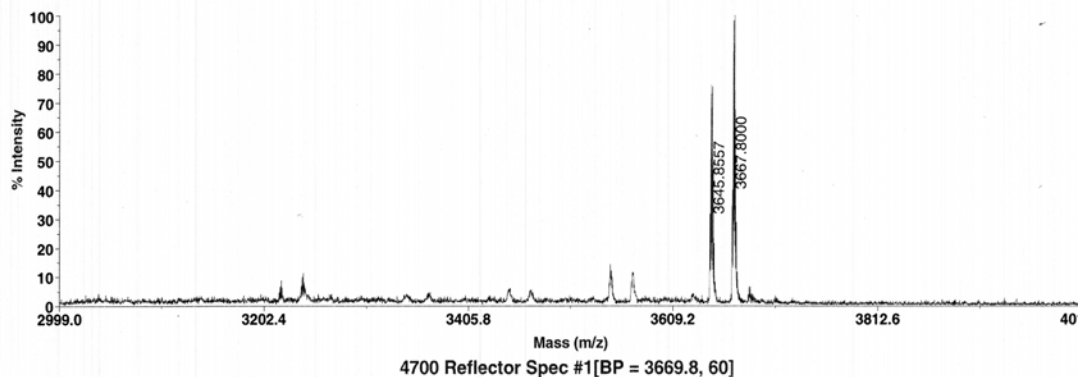
## <sup>1</sup>H NMR Spectrum Protected G2-3 Dendrimer

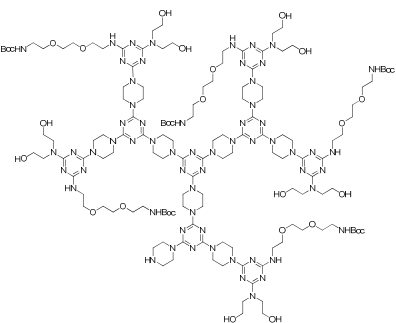


## <sup>13</sup>C NMR Spectrum Protected G2-3 Dendrimer

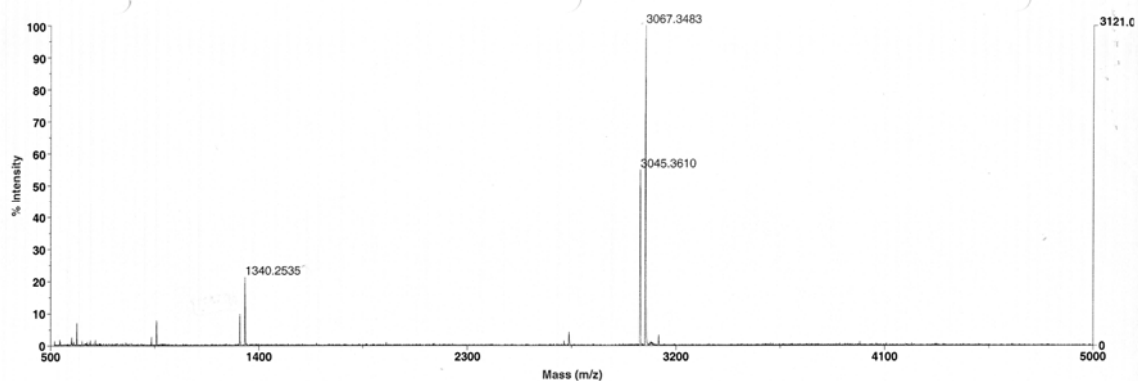


## Mass Spectrum Protected G2-3 Dendrimer

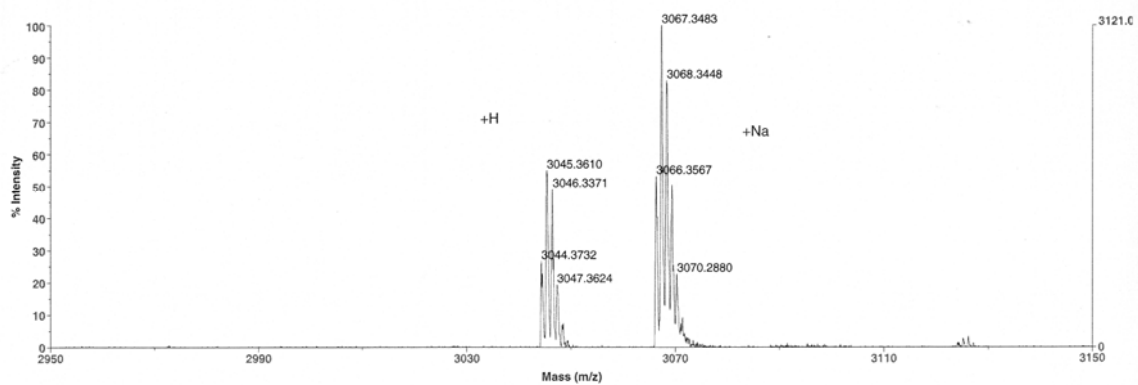


COMPOUND	EXACT MASS
Loss of one Boc group	3544.08
Loss of two Boc groups	3444.03
Loss of three Boc groups	3343.98
	3215.89

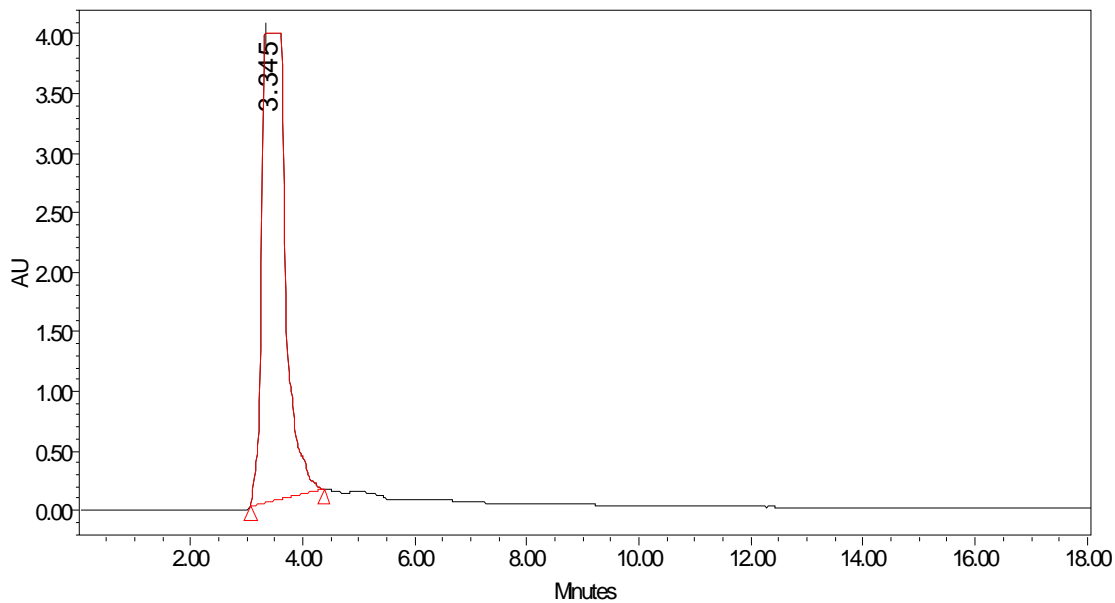
## Mass Spectrum G2-3 Dendrimer



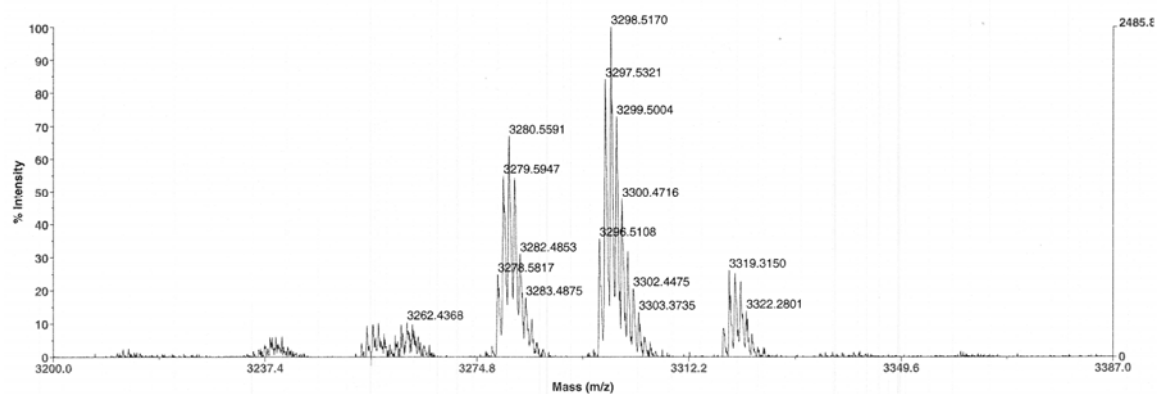
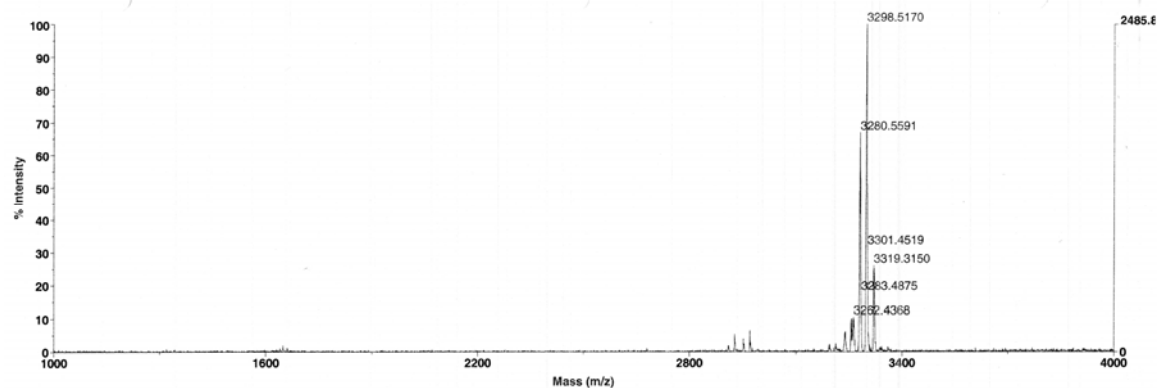
Voyager Spec #1[BP = 3067.3, 3121]



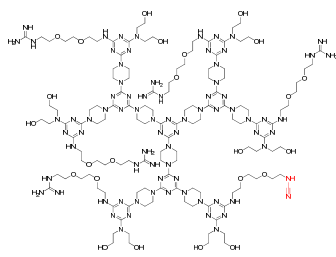
## HPLC



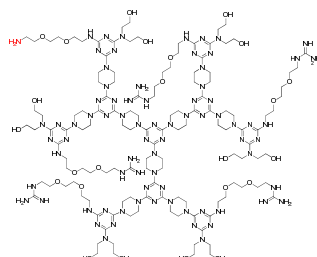
## Mass Spectrum G2-3g Dendrimer



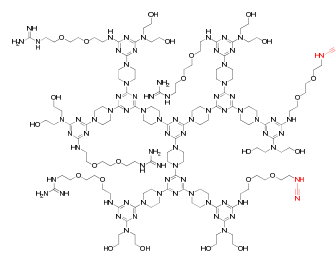
### ADDITIONAL PEAKS



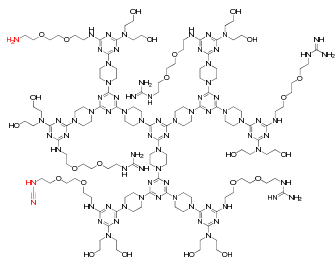
3278.92 → loss of ammonia



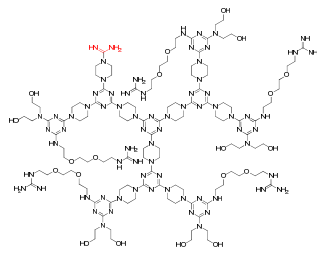
3253.93 → loss of carbodiimide



3261.90 → loss of two ammonia

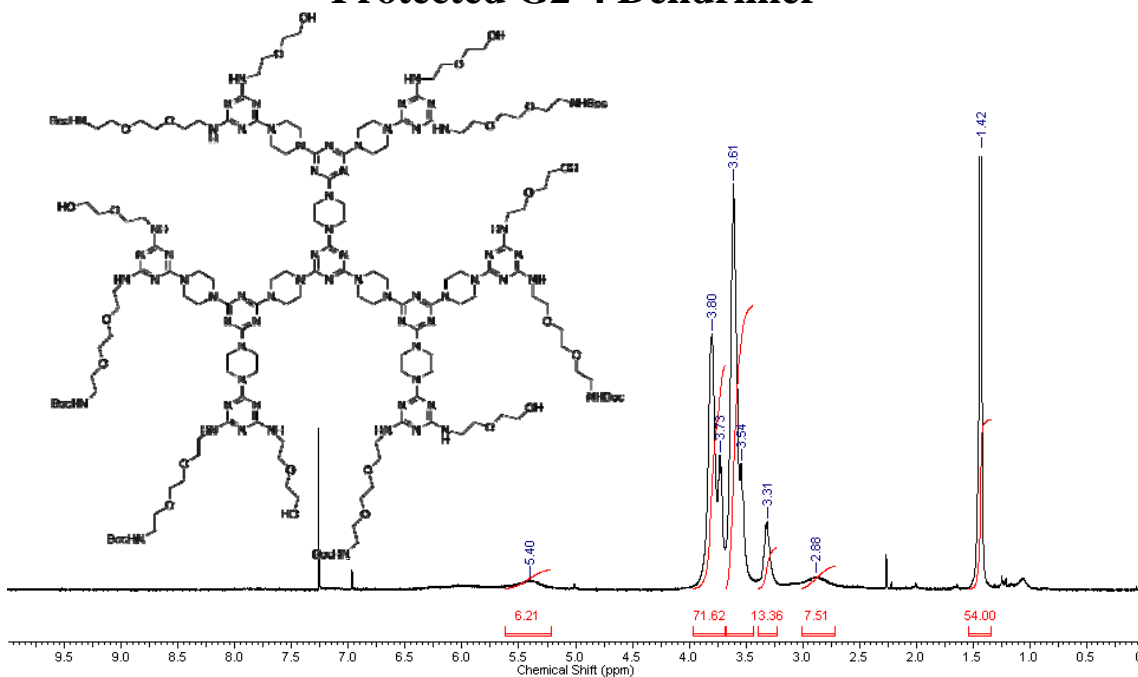


3236.90 → loss of ammonia and carbodiimide

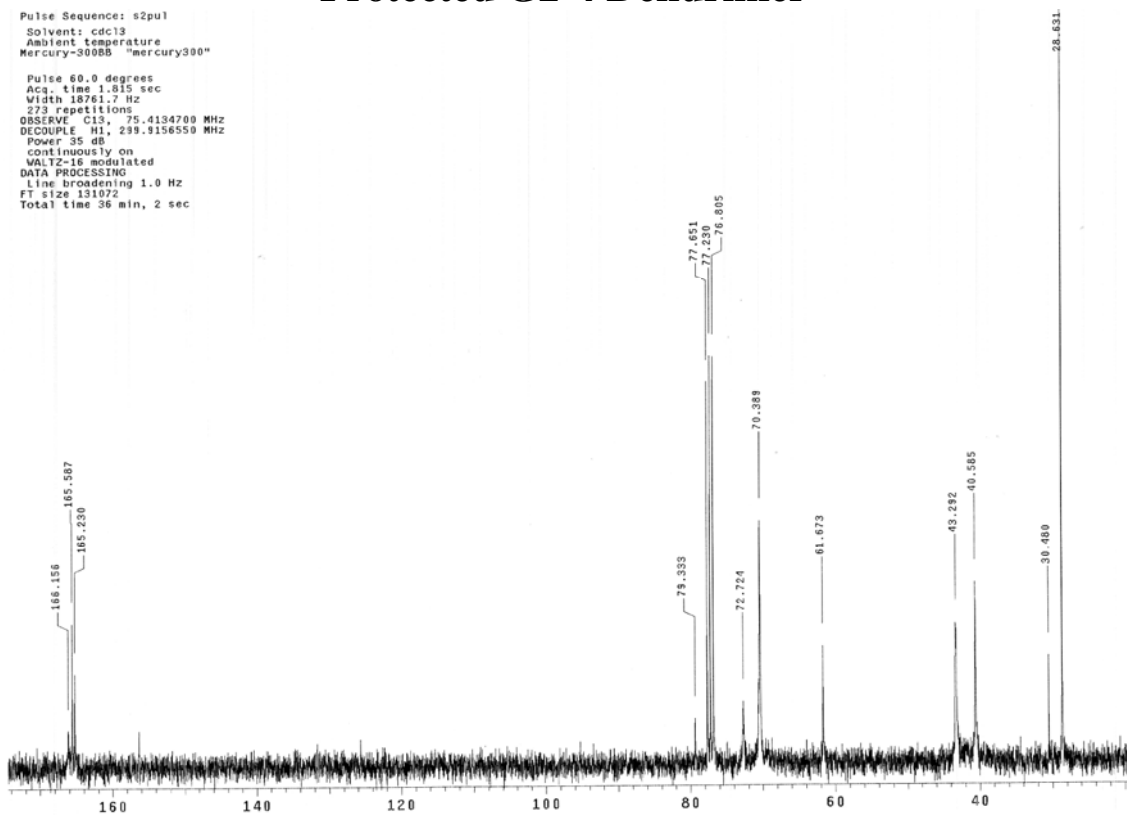


2967.76 → guanidylated piperazine

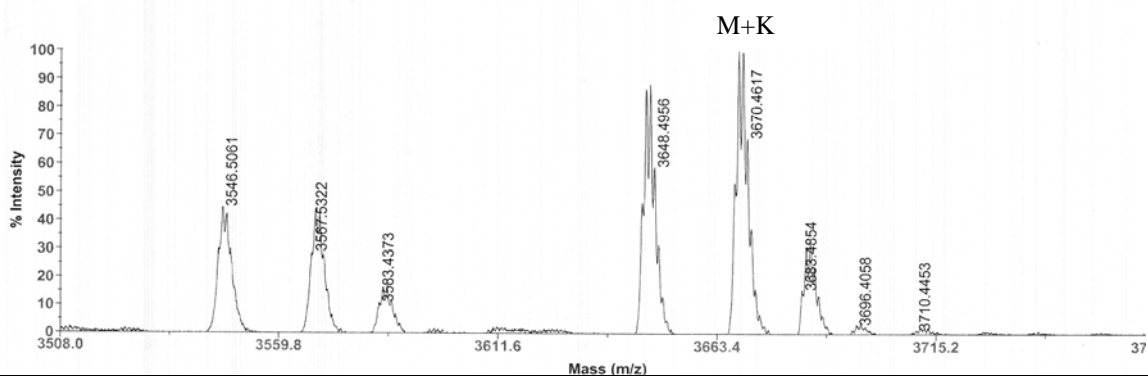
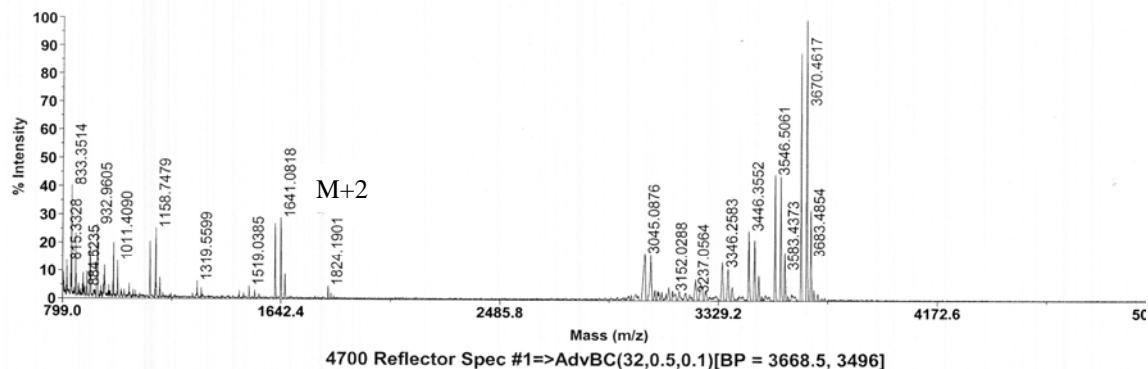
## <sup>1</sup>H NMR Spectrum Protected G2-4 Dendrimer



## <sup>13</sup>C NMR Spectrum Protected G2-4 Dendrimer

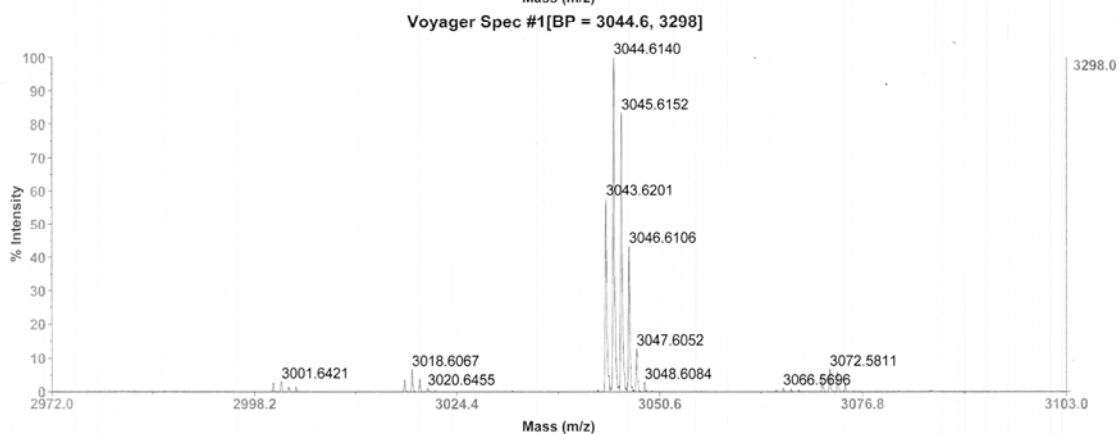
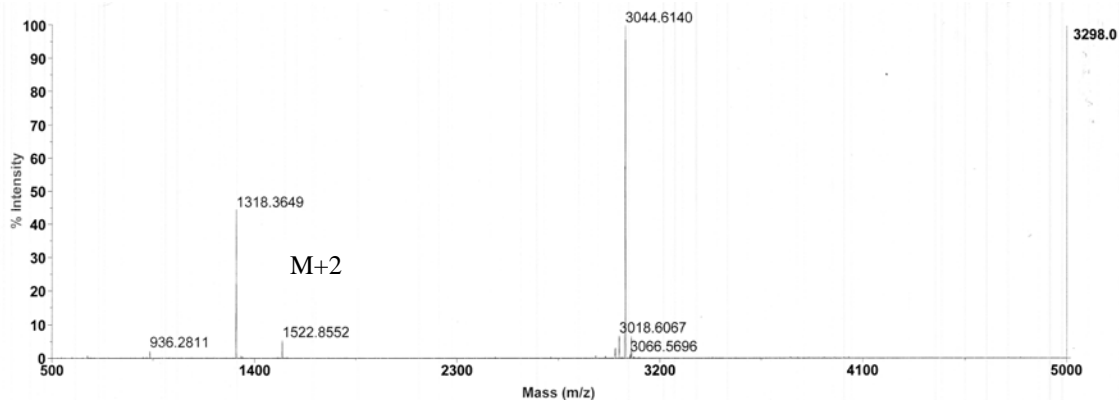


## Mass Spectrum Protected G2-4 Dendrimer

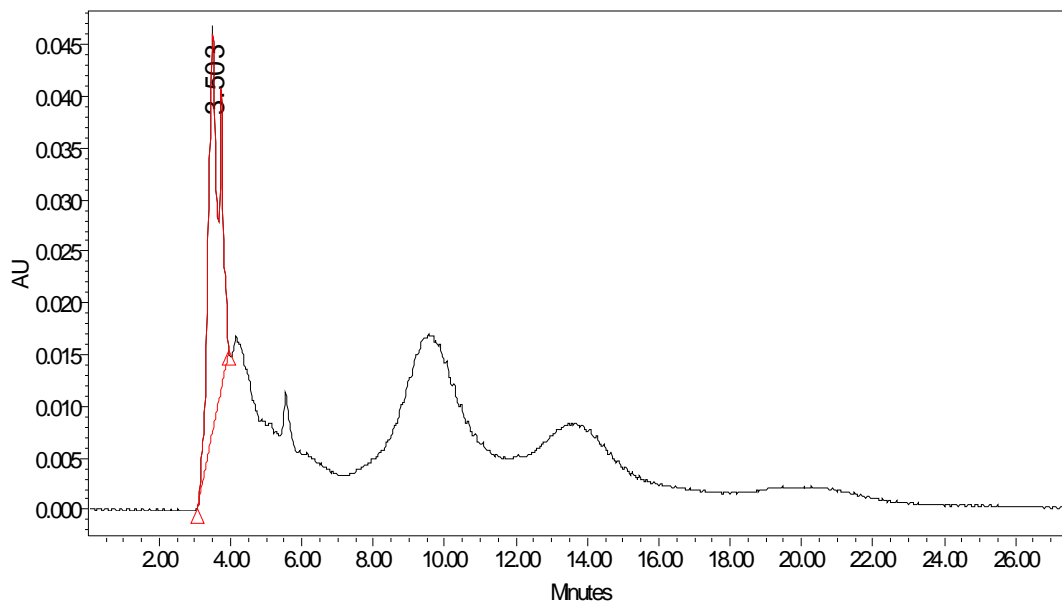


ADDITIONAL PEAKS		
Loss off one Boc group Exact Mass: 3544.08	Loss of two Boc groups Exact Mass: 3444.03	Loss of three Boc groups Exact Mass: 3343.98
Loss of four Boc groups Exact Mass: 3243.92	Loss of five Boc groups Exact Mass: 3143.87	Loss of six Boc groups Exact Mass: 3043.82

## Mass Spectrum G2-4 Dendrimer

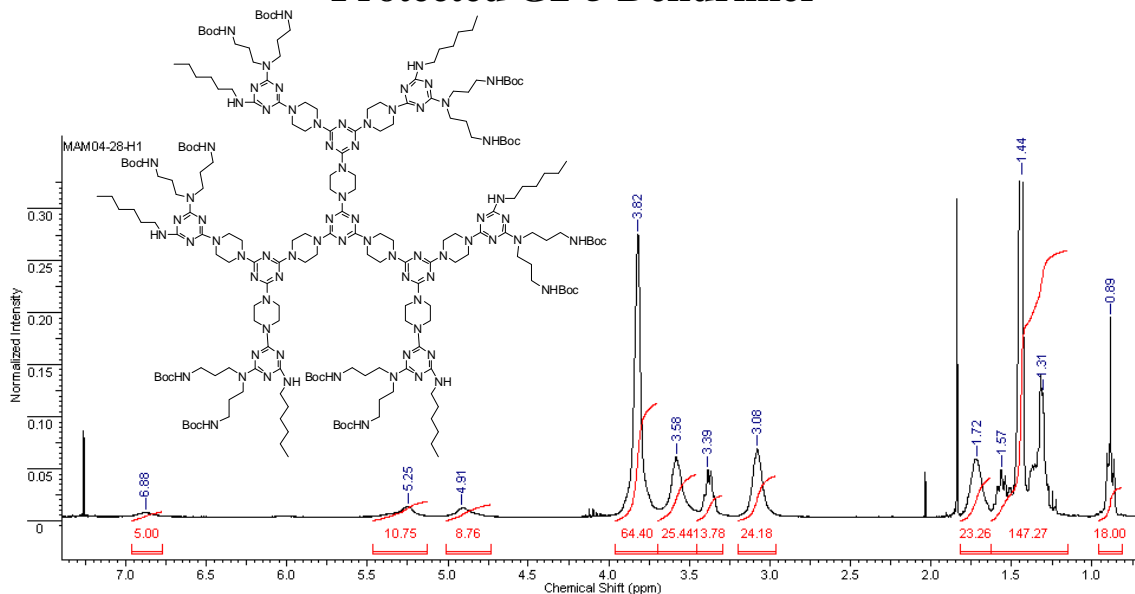


## HPLC

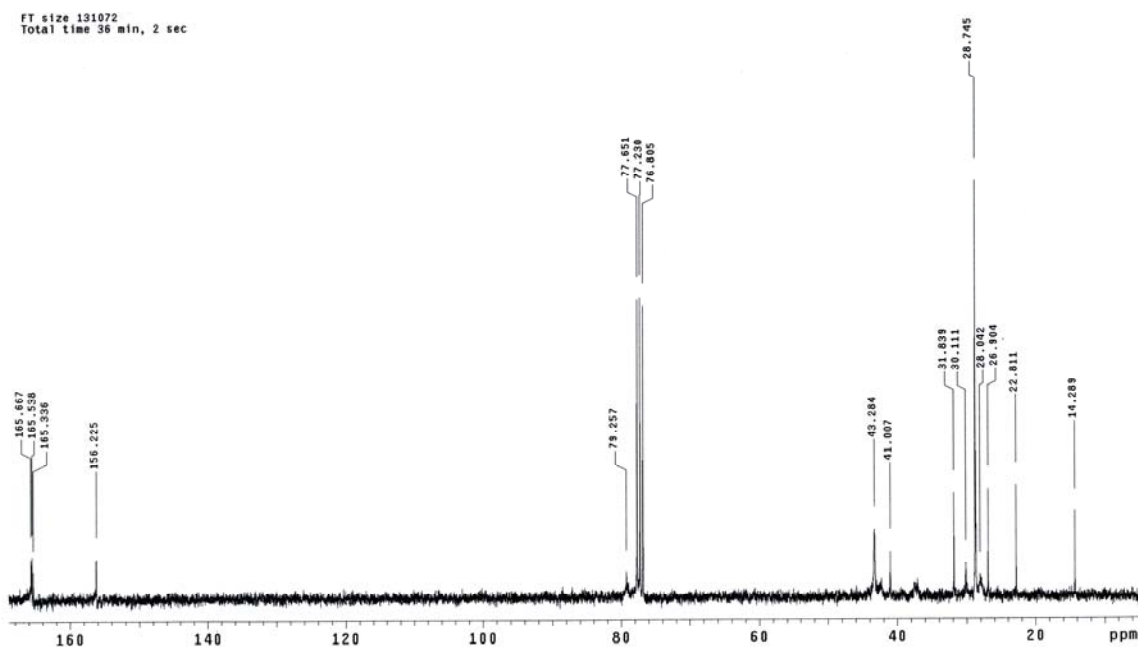




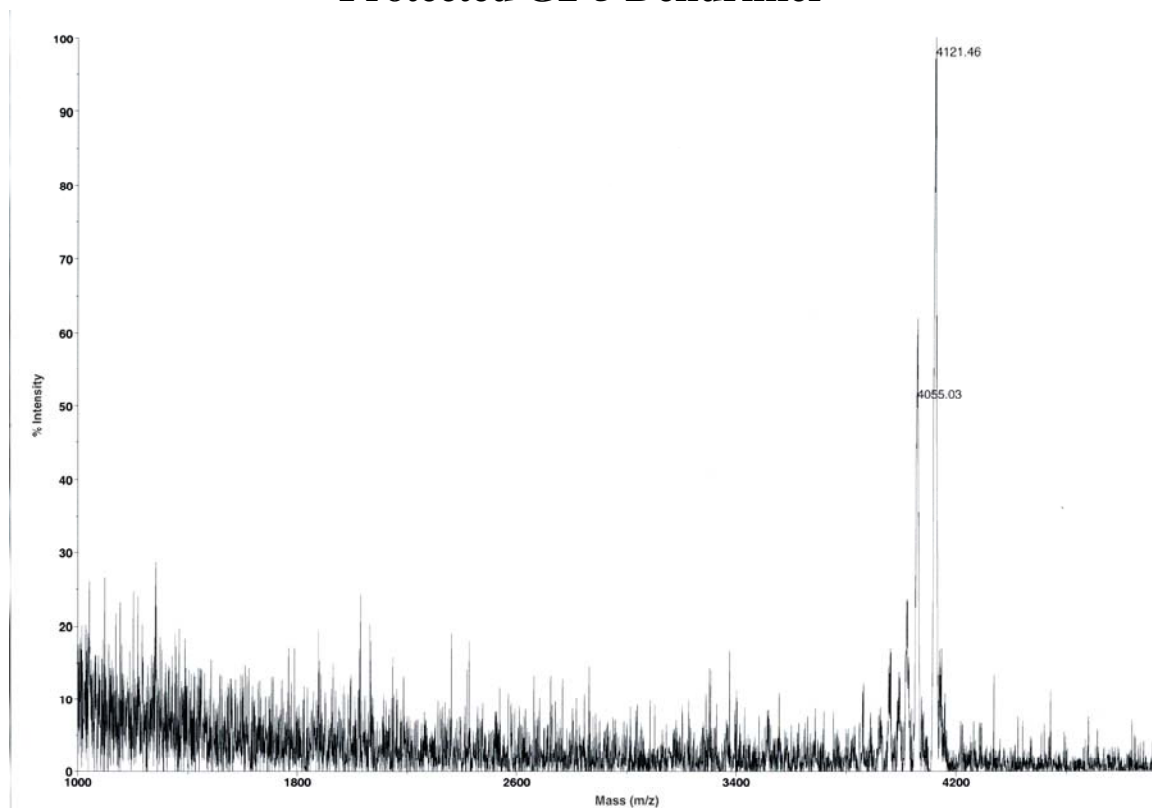
## <sup>1</sup>H NMR Spectrum Protected G2-5 Dendrimer

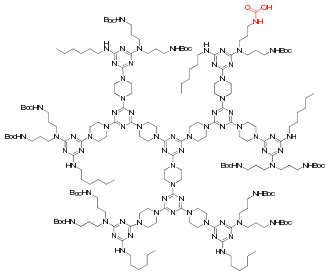


## <sup>13</sup>C NMR Spectrum Protected G2-5 Dendrimer

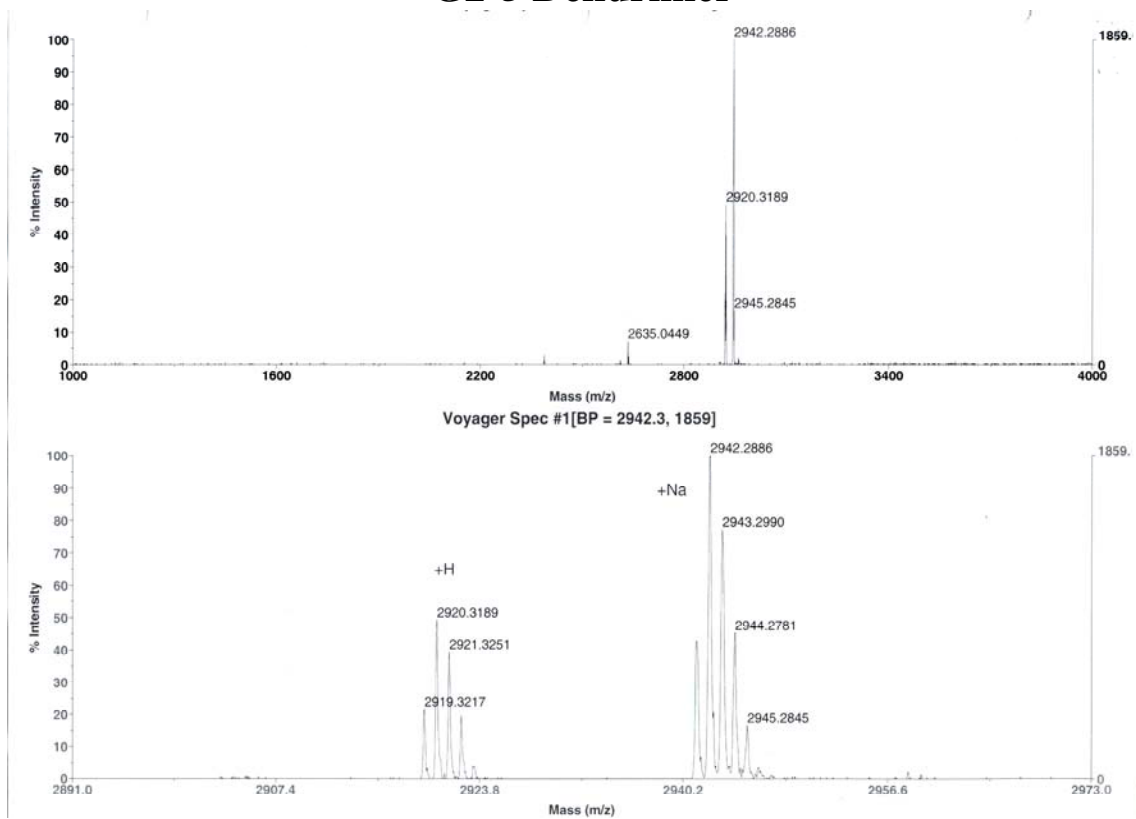


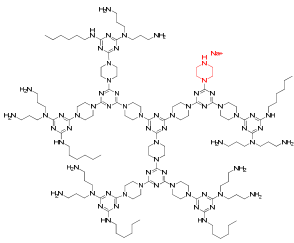
## Mass Spectrum Protected G2-5 Dendrimer



COMPOUND	EXACT MASS
	4062.76

## Mass Spectrum G2-5 Dendrimer



COMPOUND	EXACT MASS
	2633.93