

Supporting Information:

Amine- and blocked isocyanate-terminated polyurethane dendrimers: Integrated synthesis, photophysical properties and application in a heat curable system.

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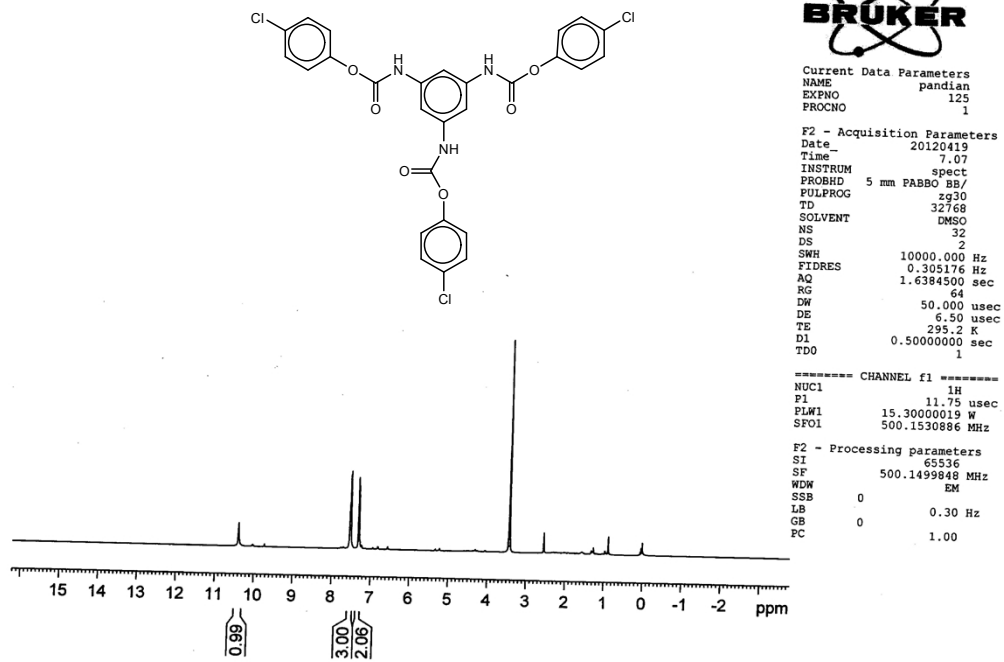


Figure S1: ¹H NMR Spectrum of core

Lab GSK
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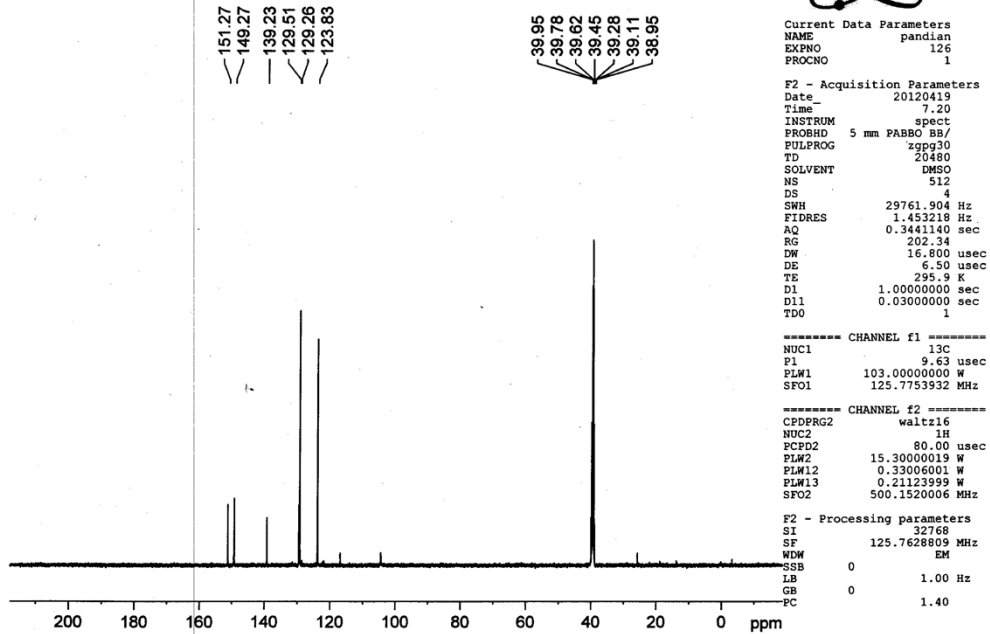


Figure S2: C^{13} NMR Spectrum of core

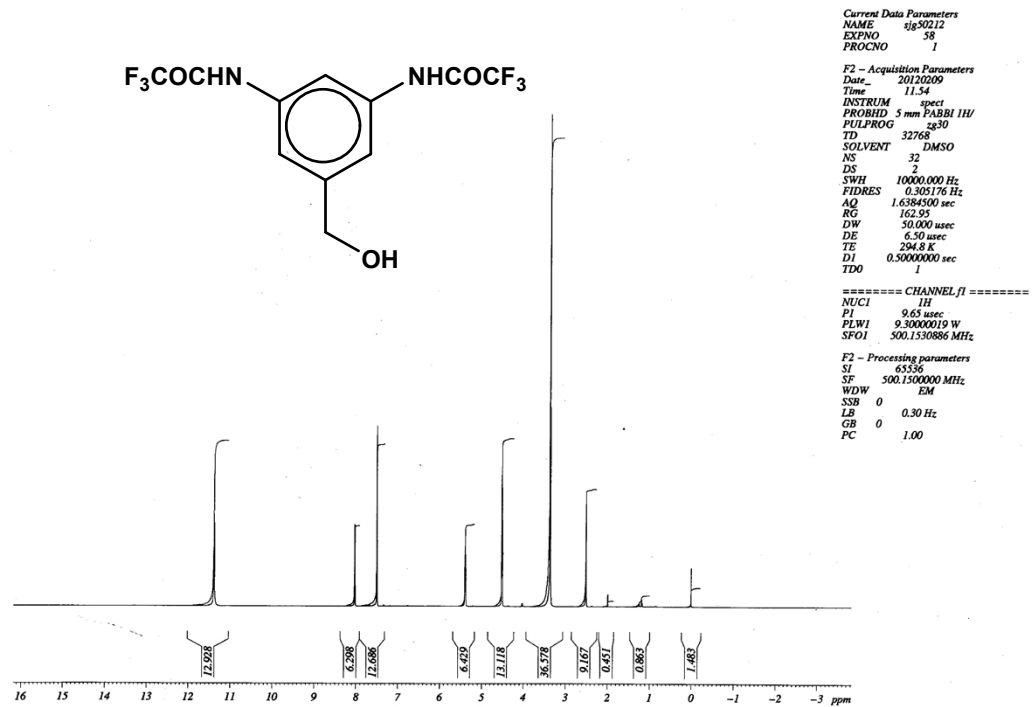


Figure S3: ^1H NMR Spectrum of building block

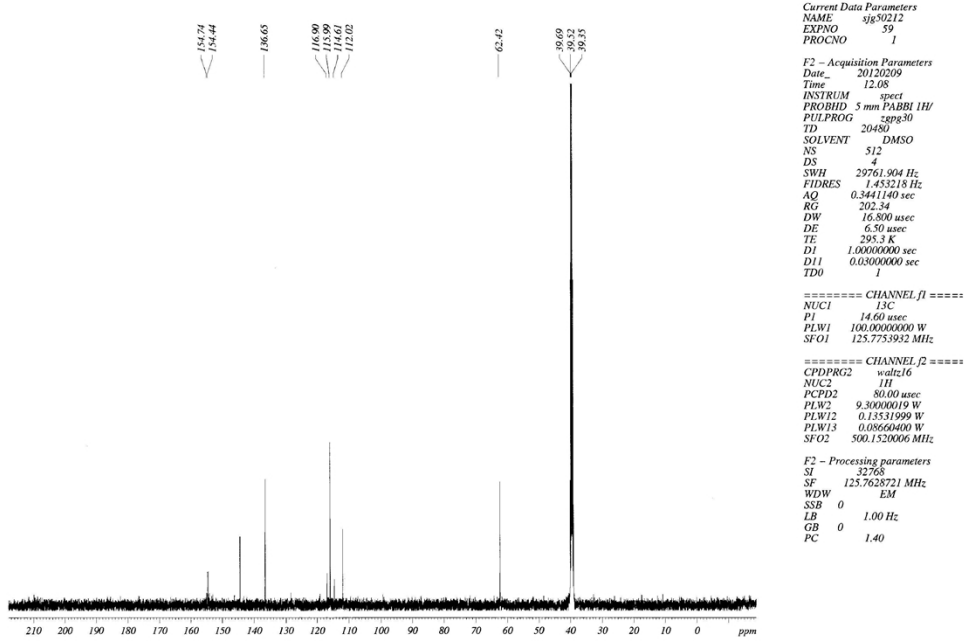


Figure S4 : ¹³C NMR Spectrum of building block

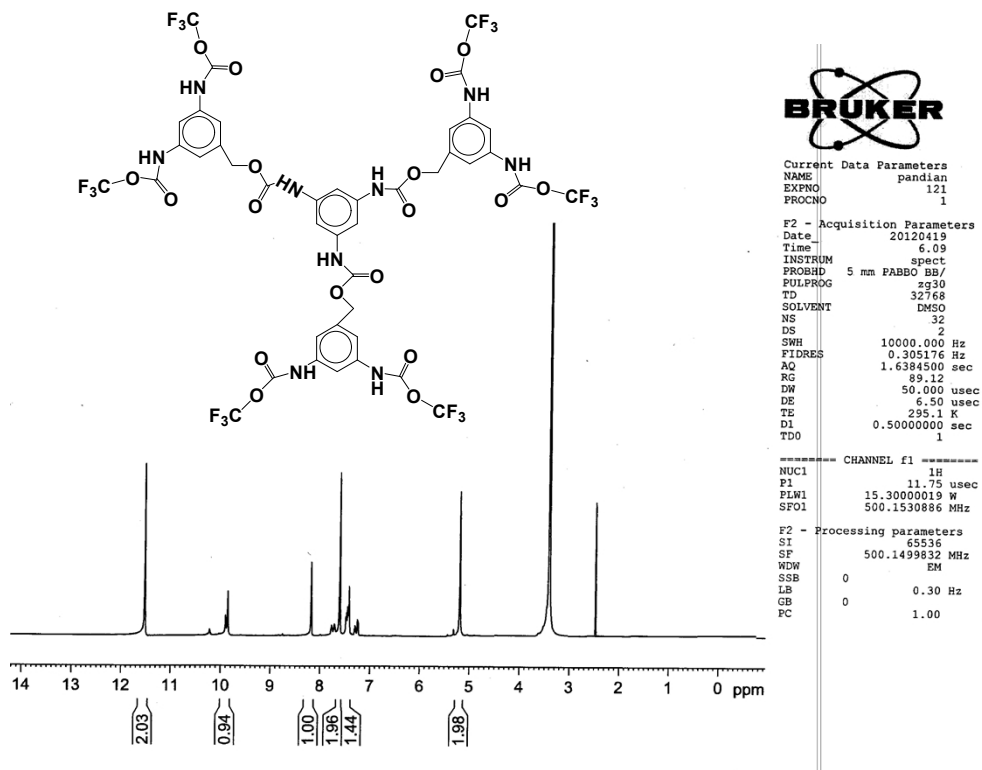


Figure S5: ¹H NMR Spectrum of G1 dendrimers with protected amine-end groups

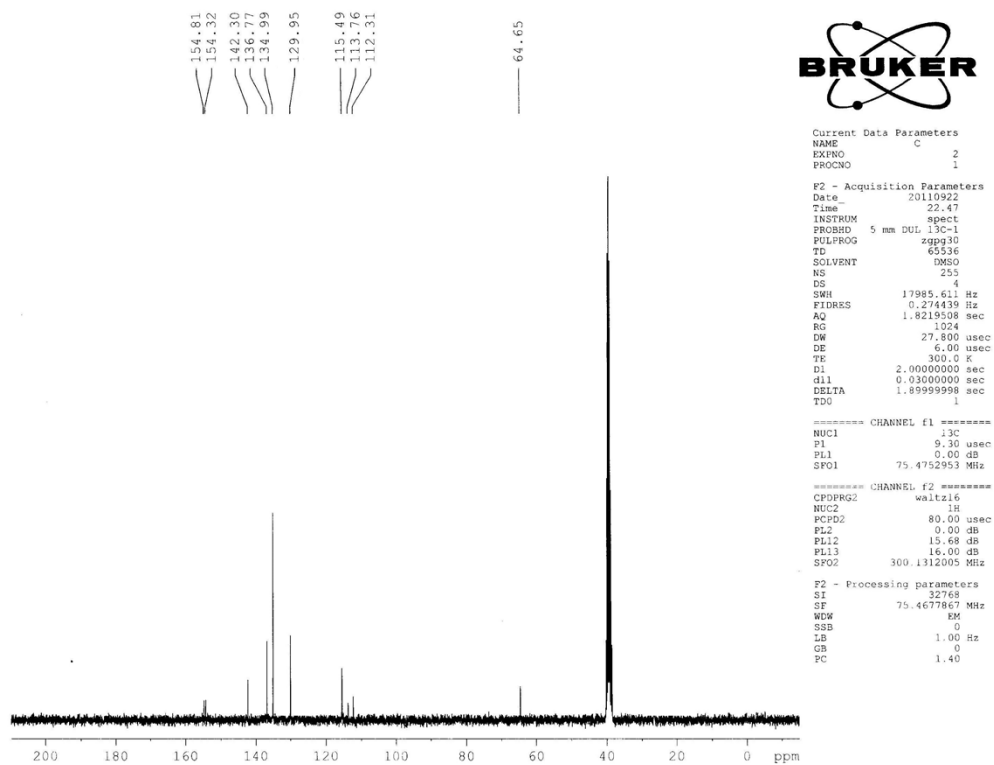


Figure S6: C^{13} NMR Spectrum of G1 dendrimers with protected amine-end groups

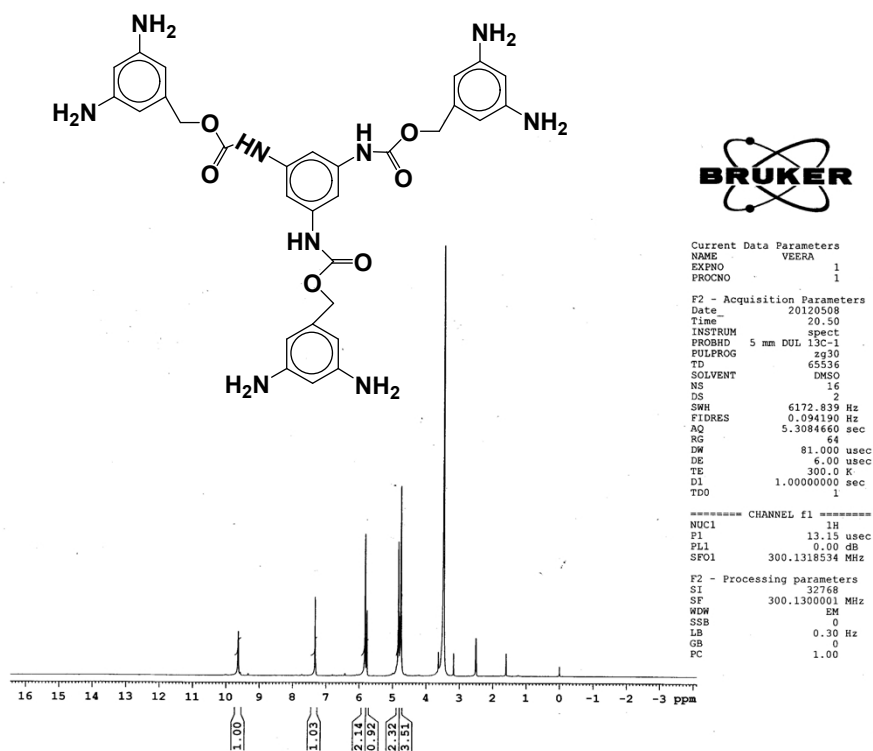


Figure S7: ^1H NMR Spectrum of G1 dendrimers with amine-end groups

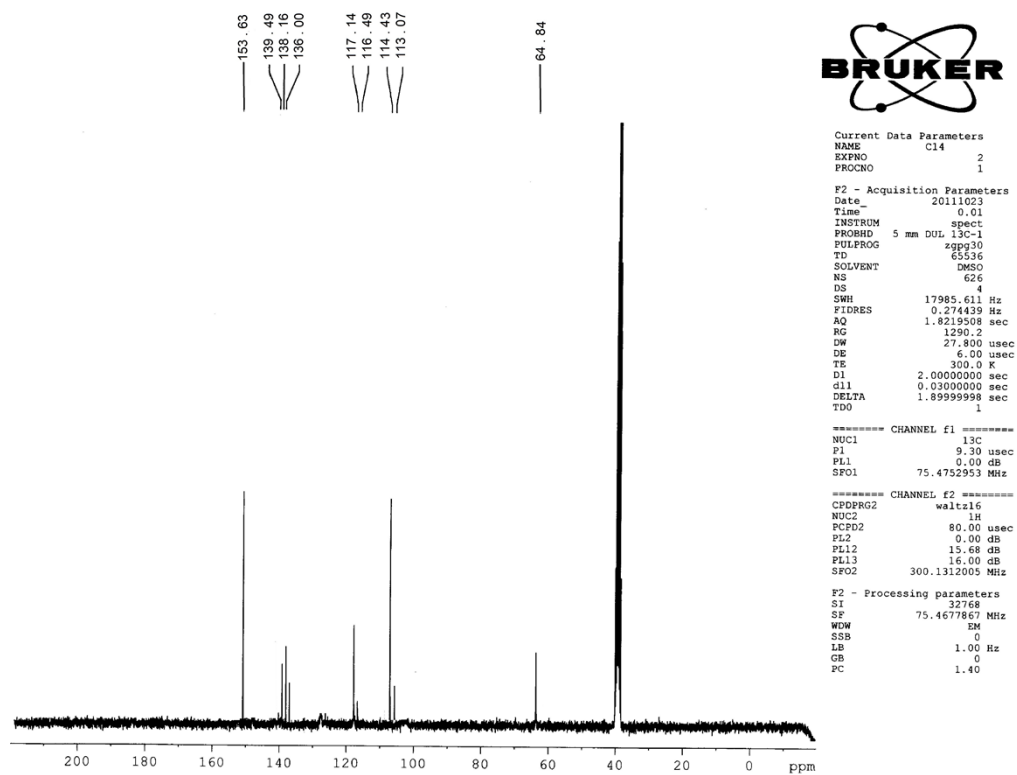


Figure S8: C^{13} NMR Spectrum of G1 dendrimers with amine-end groups

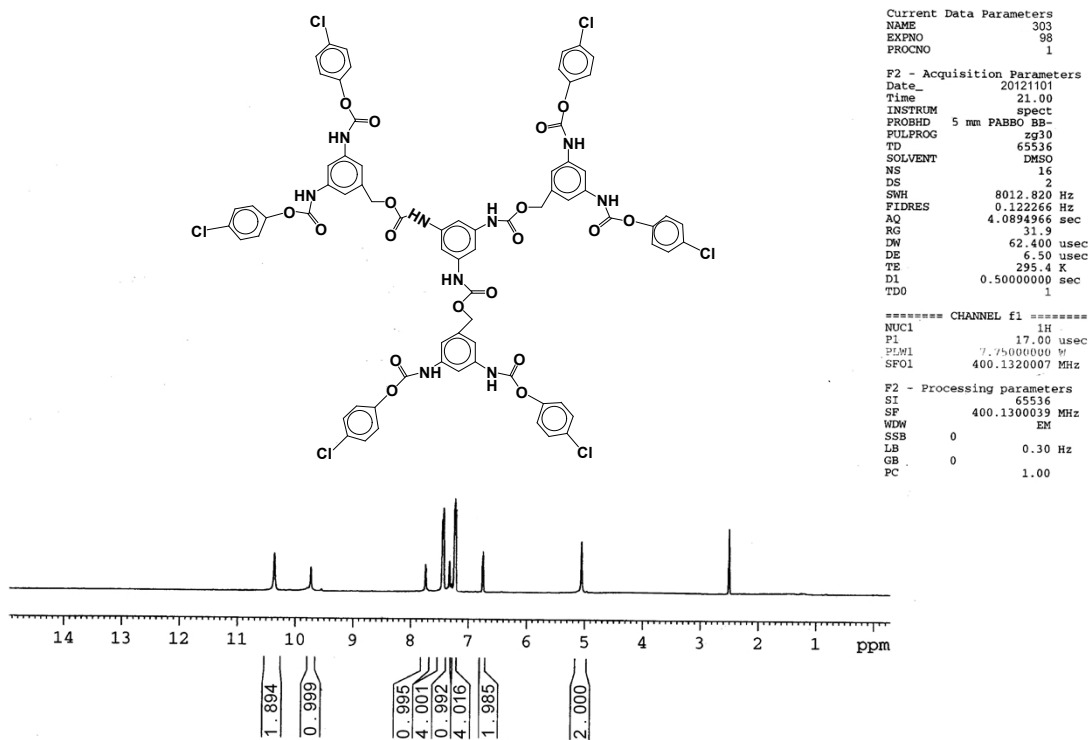


Figure S9: ^1H NMR Spectrum of G1 dendrimers with blocked isocyanate end groups

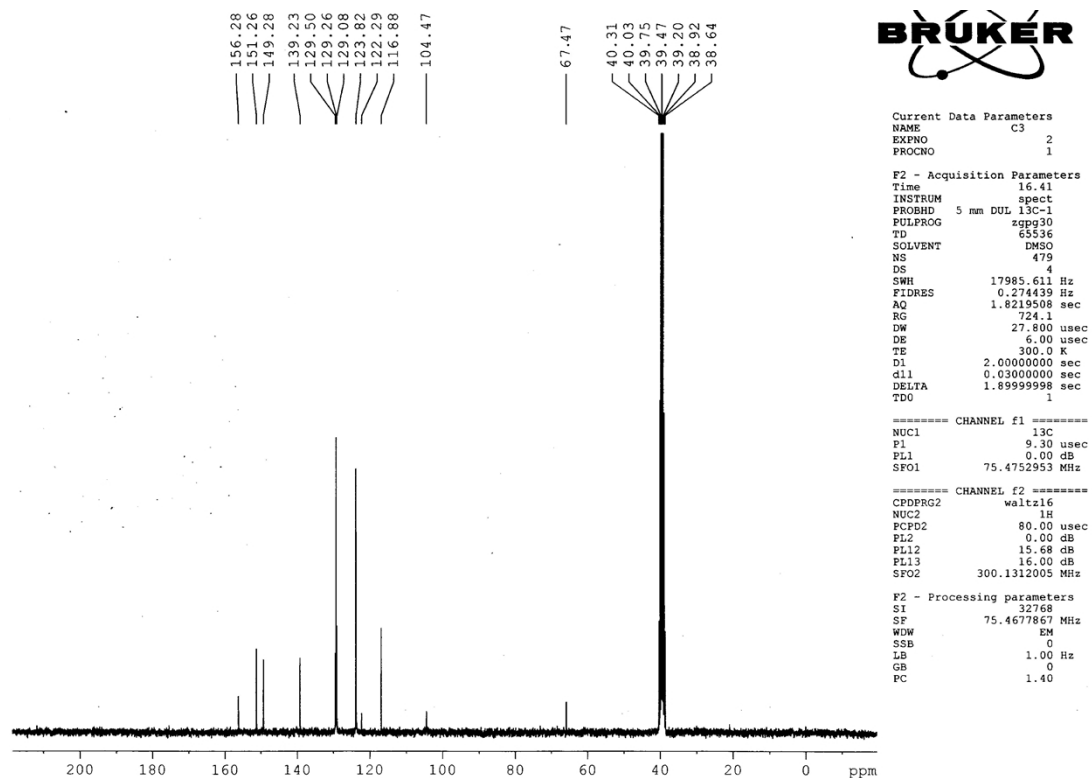


Figure S10: C^{13} NMR Spectrum of G1 dendrimers with blocked isocyanate-end groups

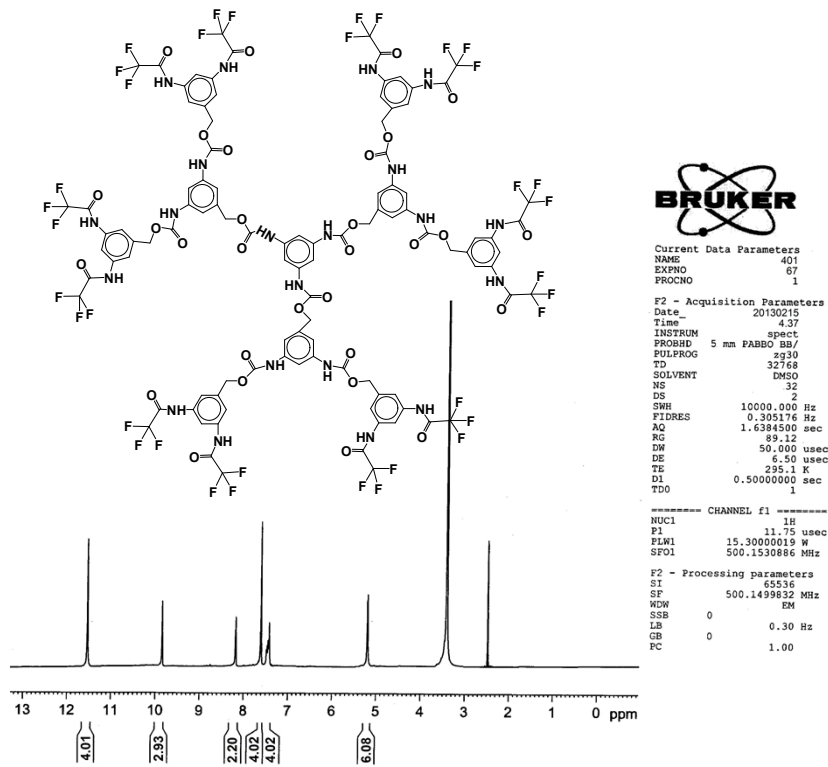
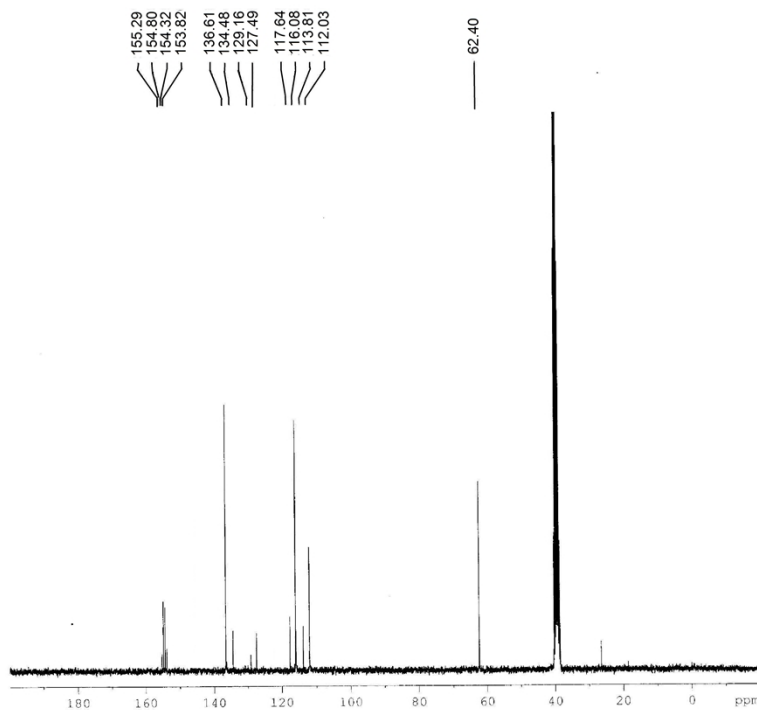


Figure S11: ^1H NMR Spectrum of G2 dendrimers with protected amine-end groups



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Current Data Parameters
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EXPNO        2
PROCNO       1

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PULPROG      zgpg30
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SOLVENT      CDCl3
NS           437
DS           4
SWH          17985.611 Hz
FIDRES       0.274439 Hz
AQ           1.8219508 sec
RG           20642.5
DW           27.800 usec
DE           6.00 usec
TE           300.0 K
D1           2.0000000 sec
d11          0.0300000 sec
DELTA        1.8999998 sec
TDO          1

===== CHANNEL f1 =====
NUC1          13C
P1            8.10 usec
PL1           -2.00 dB
SFO1          75.4752953 MHz

===== CHANNEL f2 =====
CPDPRG2      waltz16
NUC2          1H
PCPD2        80.00 usec
PL2           0.00 dB
PL12         16.19 dB
PL13         16.00 dB
SFO2          300.1312005 MHz

F2 - Processing parameters
SI            32768
SF            75.4677490 MHz
WDW           EM
SSB           0
LB            1.00 Hz
GB            0
PC            1.40

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Figure S12: C^{13} NMR Spectrum of G2 dendrimers with protected amine-end groups

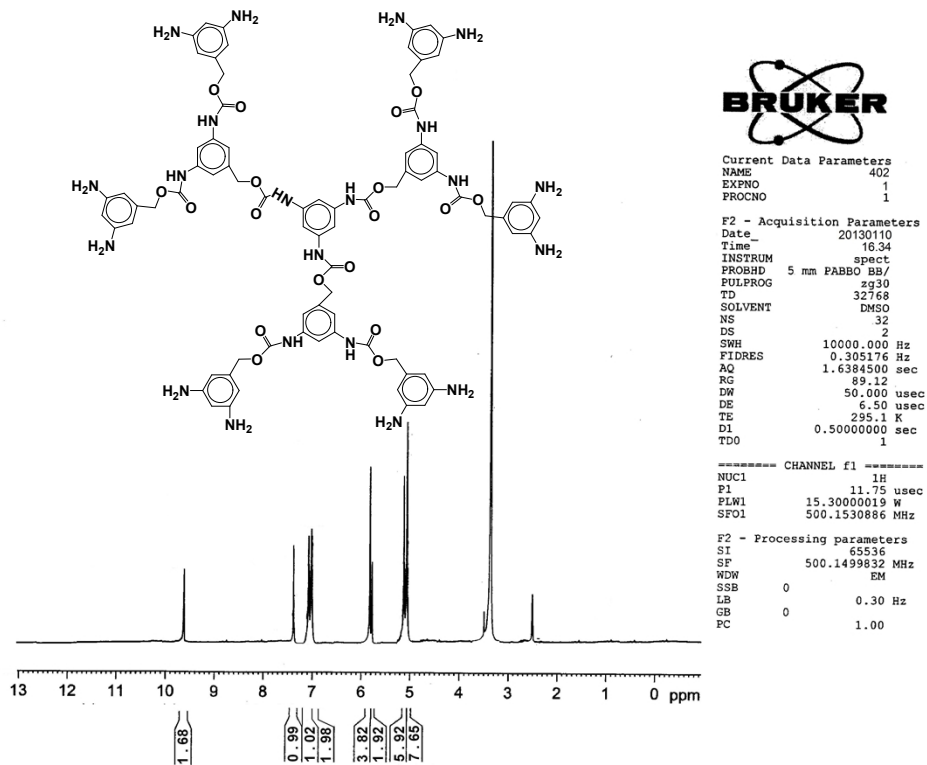


Figure S13: ^1H NMR Spectrum of G2 dendrimers with amine-end groups

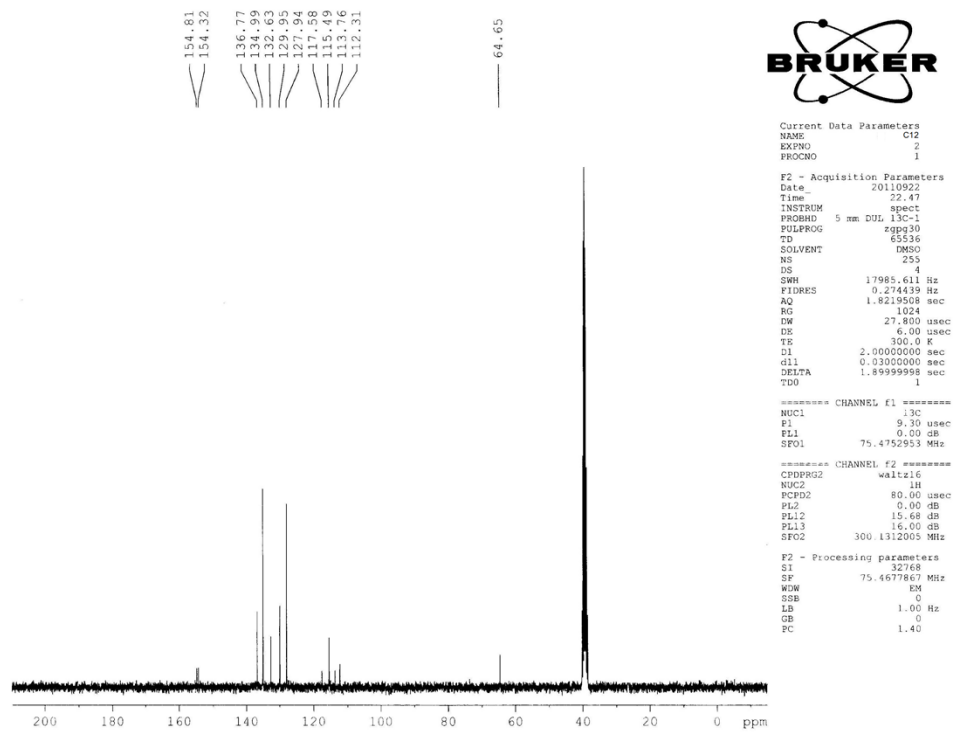


Figure S14: C^{13} NMR Spectrum of G2 dendrimers with amine-end groups

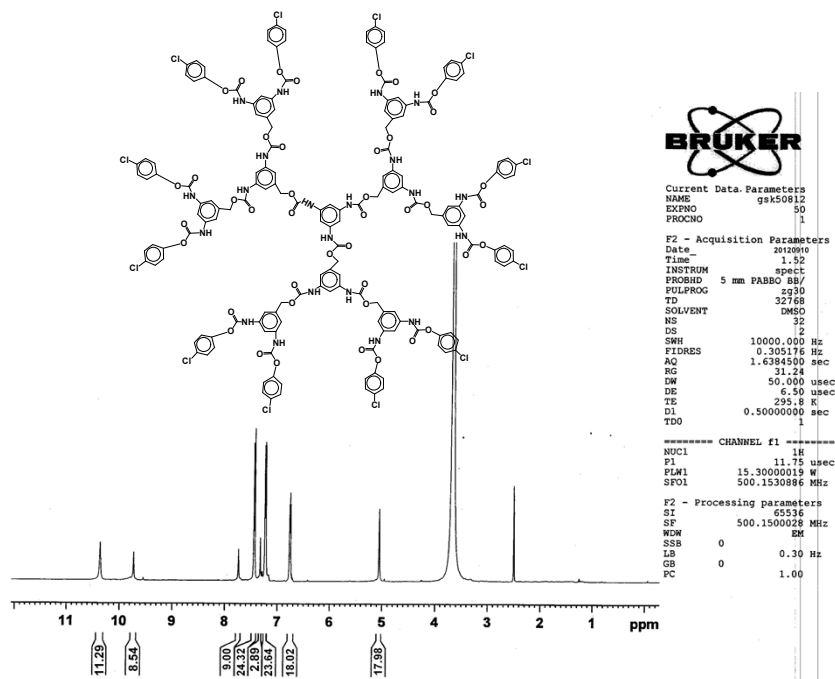


Figure S15: ^1H NMR Spectrum of G2 dendrimers with blocked isocyanate-end groups

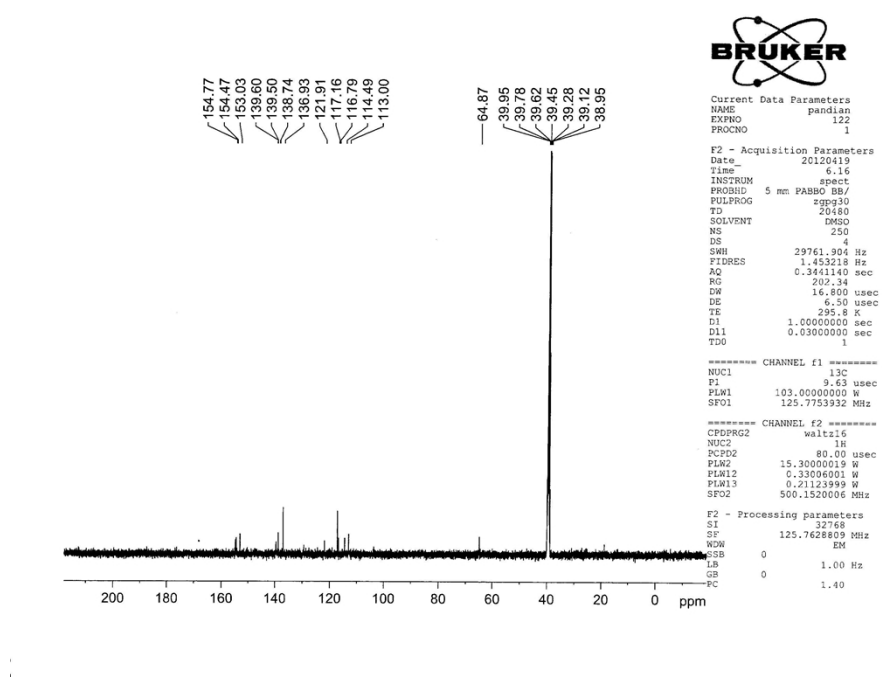


Figure S16: C^{13} NMR Spectrum of G2 dendrimers with blocked isocyanate-end groups

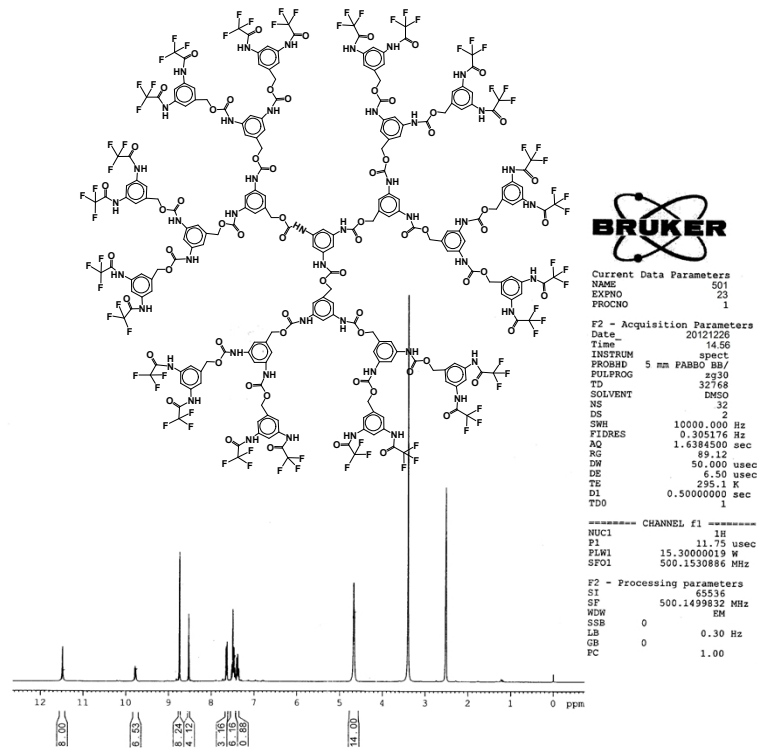
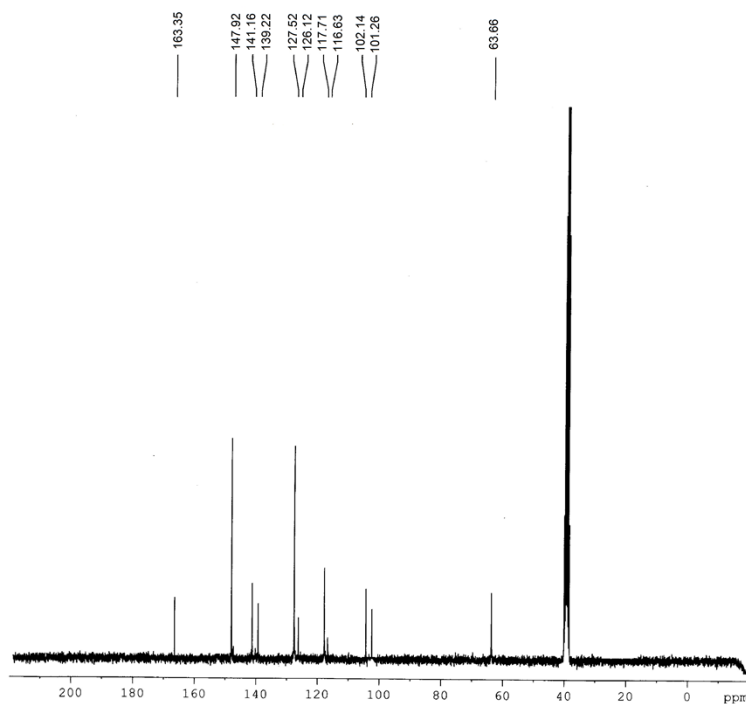


Figure S17: ^1H NMR Spectrum of G3 dendrimers with protected amine-end groups



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Current Data Parameters
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EXPNO        2
PROCNO       1

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TD           65536
SOLVENT      DMSO
NS           624
DS           4
SWH          17985.611 Hz
FIDRES       0.274439 Hz
AQ           1.8219508 sec
RG           1290.2
DW           27.800 usec
DE           6.00 usec
TE           300.0 K
D1           2.0000000 sec
d11          0.0300000 sec
DELTA        1.89999998 sec
TDO          1

===== CHANNEL f1 =====
NUC1          13C
P1            9.30 usec
PL1           0.00 dB
SFO1          75.4752953 MHz

===== CHANNEL f2 =====
CPDPRG2      waltz16
NUC2          1H
PCPD2        80.00 usec
PL2           0.00 dB
PL12         15.68 dB
PL13         16.00 dB
SFO2          300.1312005 MHz

F2 - Processing parameters
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SF            75.4677867 MHz
WDW           EM
SSB           0
LB            1.00 Hz
GB            0
CB            0
PC            1.40

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Figure S18: C^{13} NMR Spectrum of G3 dendrimers with protected amine-end groups

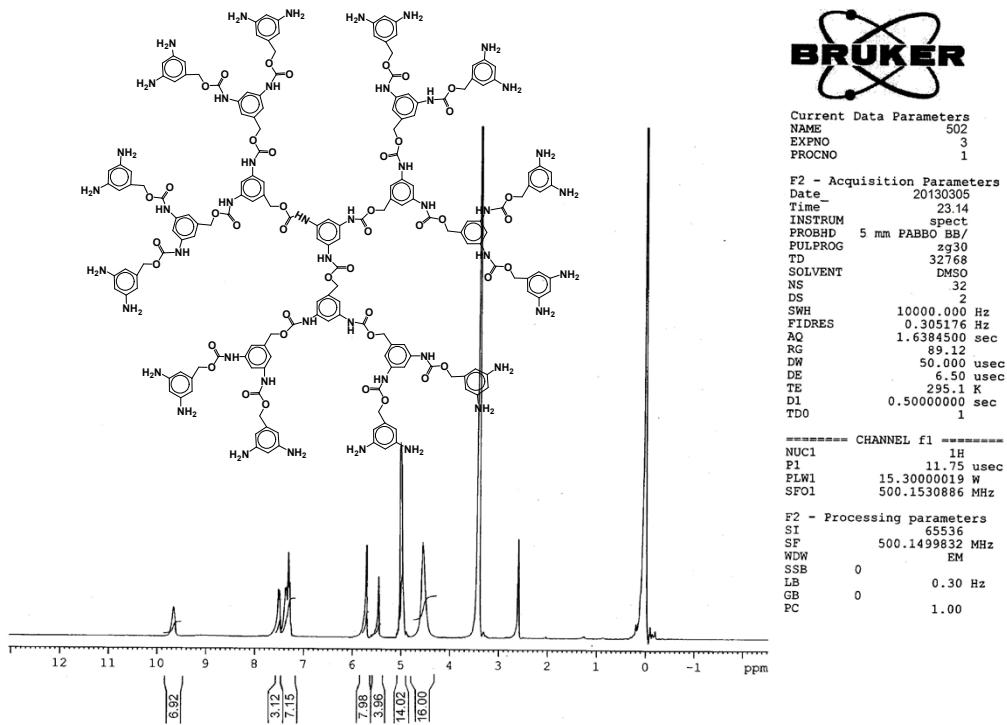


Figure S19: ^1H NMR Spectrum of G3 dendrimers with amine-end groups

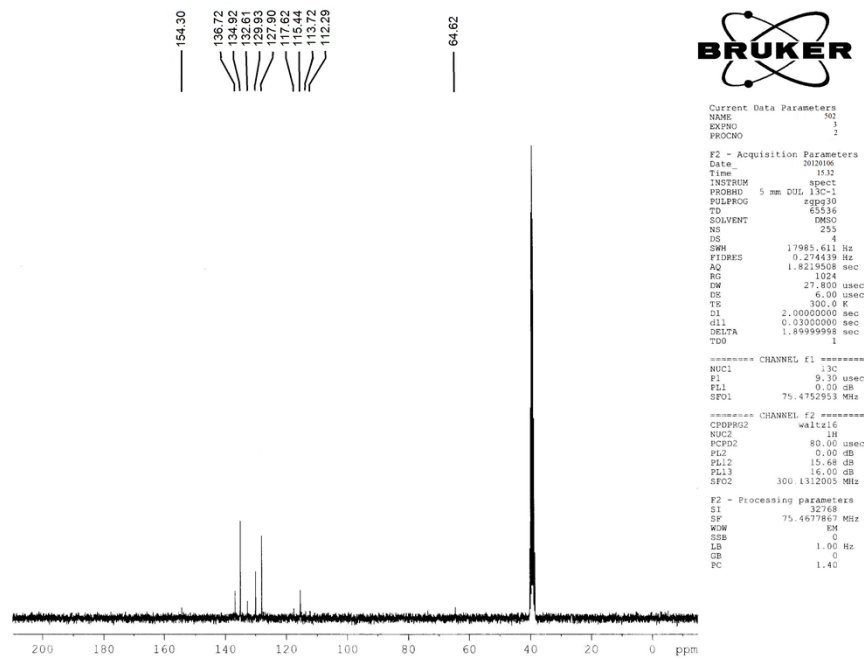


Figure S20: C^{13} NMR Spectrum of G3 dendrimers with amine-end groups

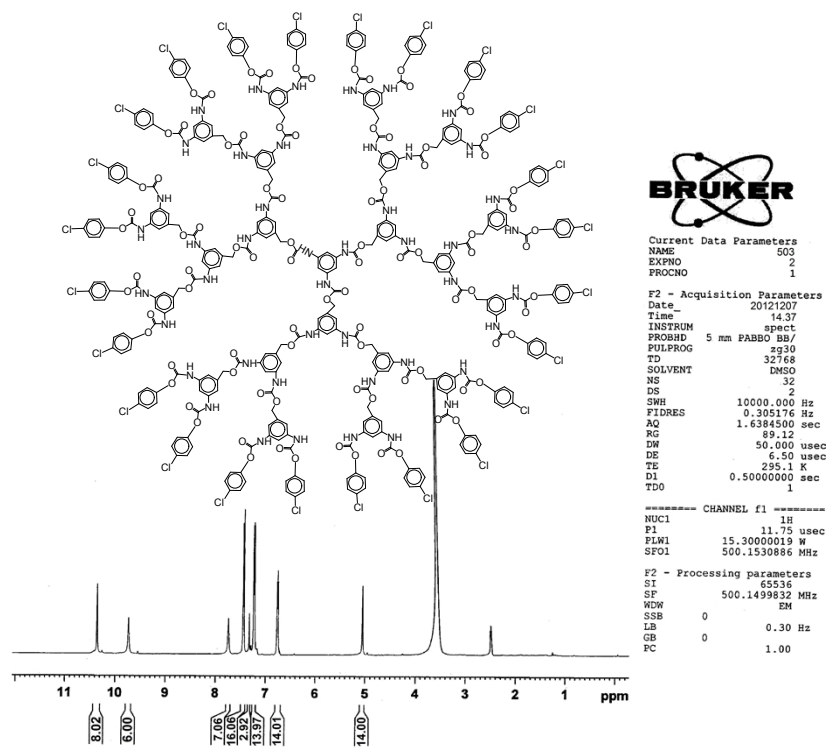


Figure S21: ^1H NMR Spectrum of G3 dendrimers with blocked isocyanate-end groups

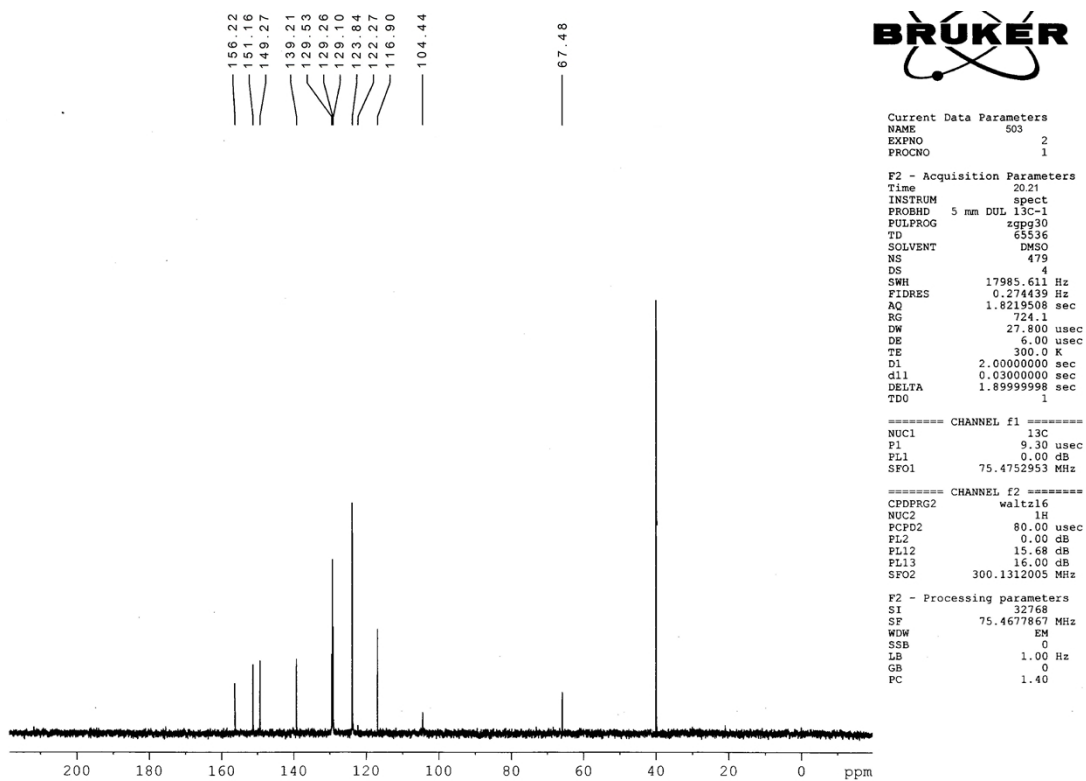


Figure S22: C^{13} NMR Spectrum of G3 dendrimers with blocked isocyanate-end groups

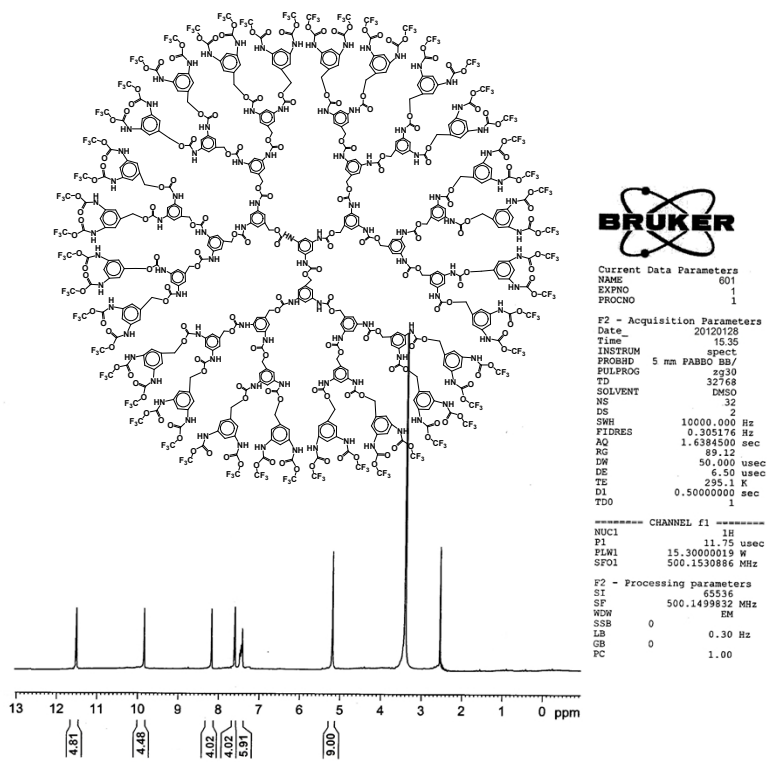
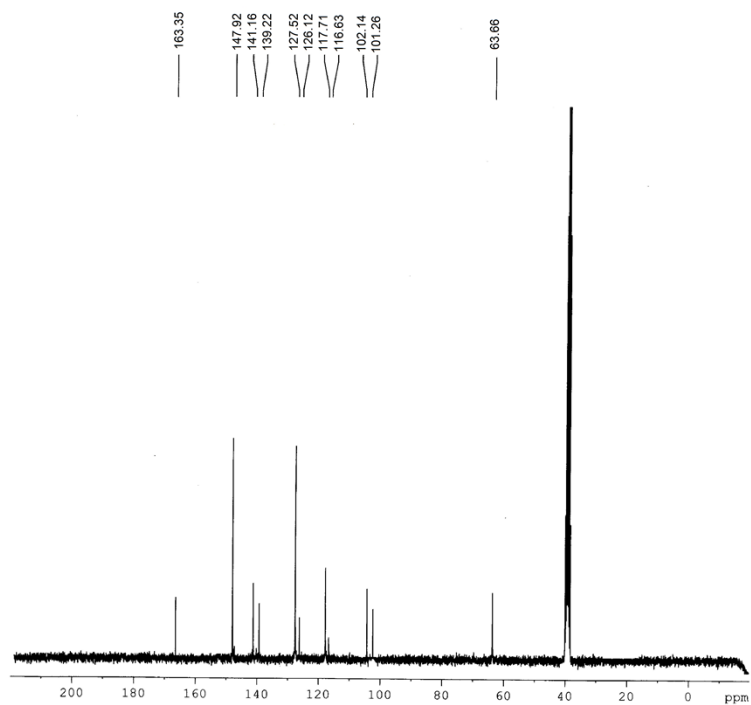


Figure S23: ^1H NMR Spectrum of G4 dendrimers with protected amine-end groups



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EXPNO         2
PROCNO        1

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TD            65536
SOLVENT       DMSO
NS            626
DS            4
SWH           17985.611 Hz
FIDRES        0.274439 Hz
AQ            1.8219508 sec
RG            1290.2
DW            27.800 usec
DE            6.00 usec
TE            300.0 K
D1            2.0000000 sec
d11           0.0300000 sec
DELTA         1.89999998 sec
TD0           1

===== CHANNEL f1 =====
NUC1          13C
P1            9.30 usec
PL1           0.00 dB
SFO1          75.4752953 MHz

===== CHANNEL f2 =====
CPDPRG2       waltz16
NUC2          1H
PCPD2         80.00 usec
PL2           0.00 dB
PL12          15.68 dB
PL13          16.00 dB
SFO2          300.1312005 MHz

F2 - Processing parameters
SI            32768
SF            75.4677867 MHz
WDW           EM
SSB           0
LB            1.00 Hz
GB            0
PC            1.40

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Figure S24: C^{13} NMR Spectrum of G4 dendrimers with protected amine-end groups

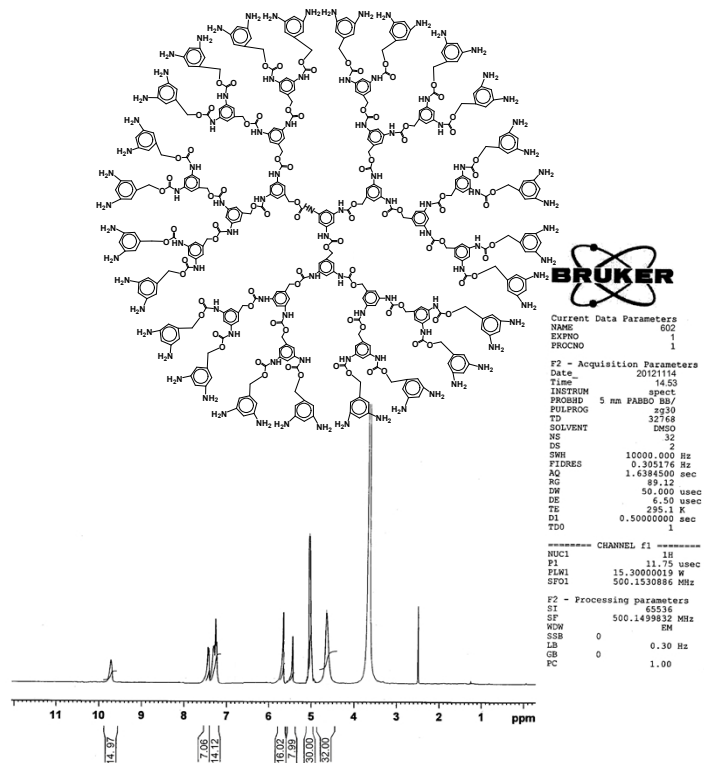


Figure S25: ^1H NMR Spectrum of G4 dendrimers with amine-end groups

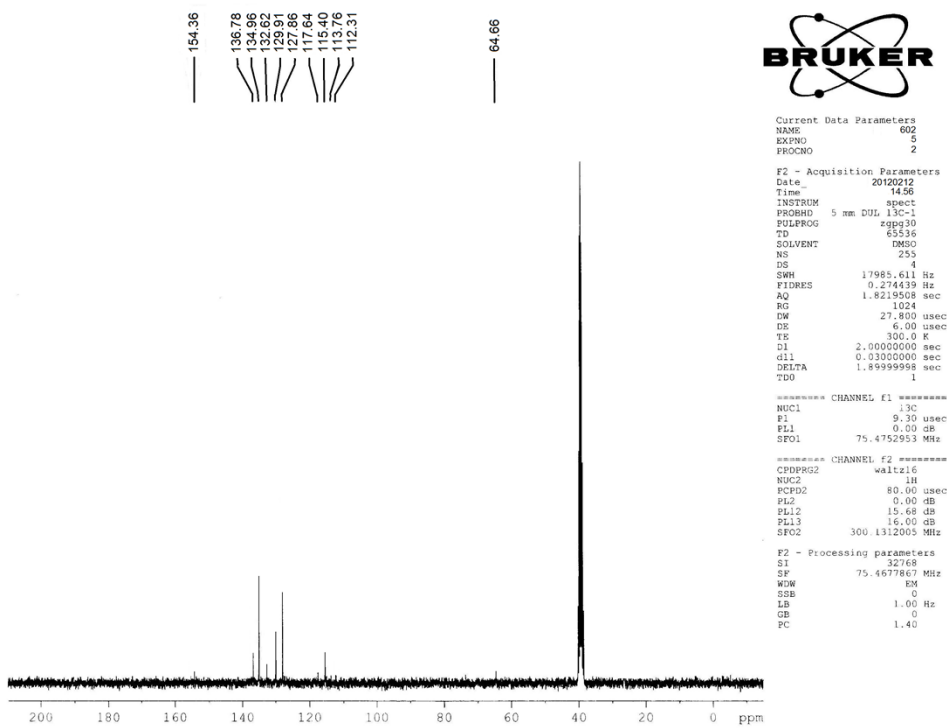


Figure S26: C^{13} NMR Spectrum of G4 dendrimers with amine-end groups

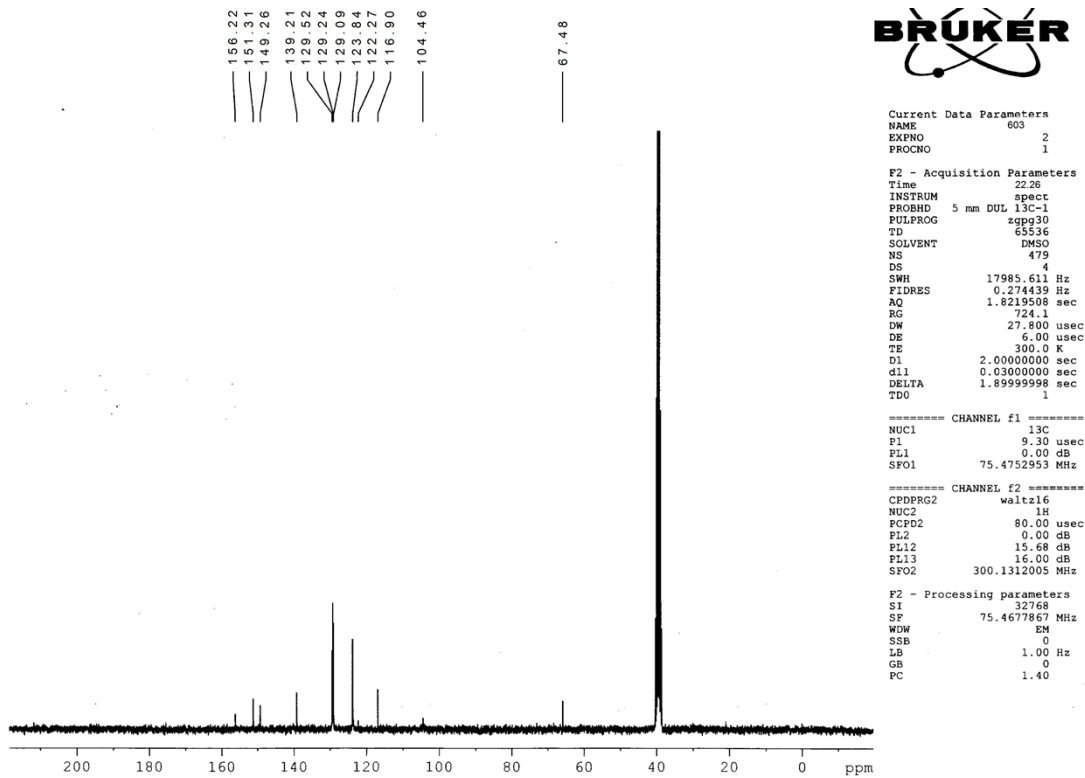


Figure S27: C^{13} NMR Spectrum of G4 dendrimers with blocked isocyanate-end groups

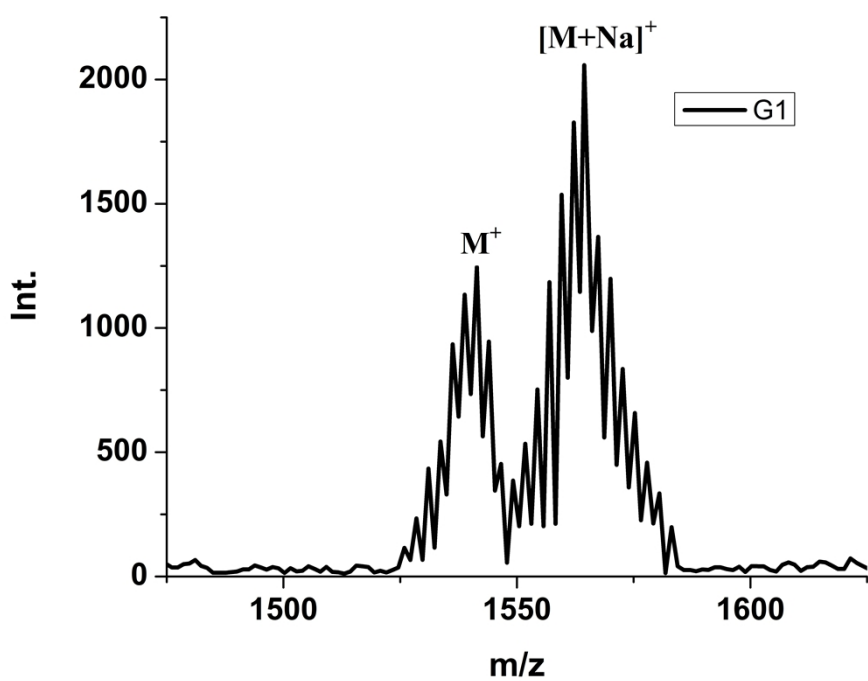


Figure S28: Isotopes distribution pattern of G1 blocked isocyanate terminated polyurethane dendrimer

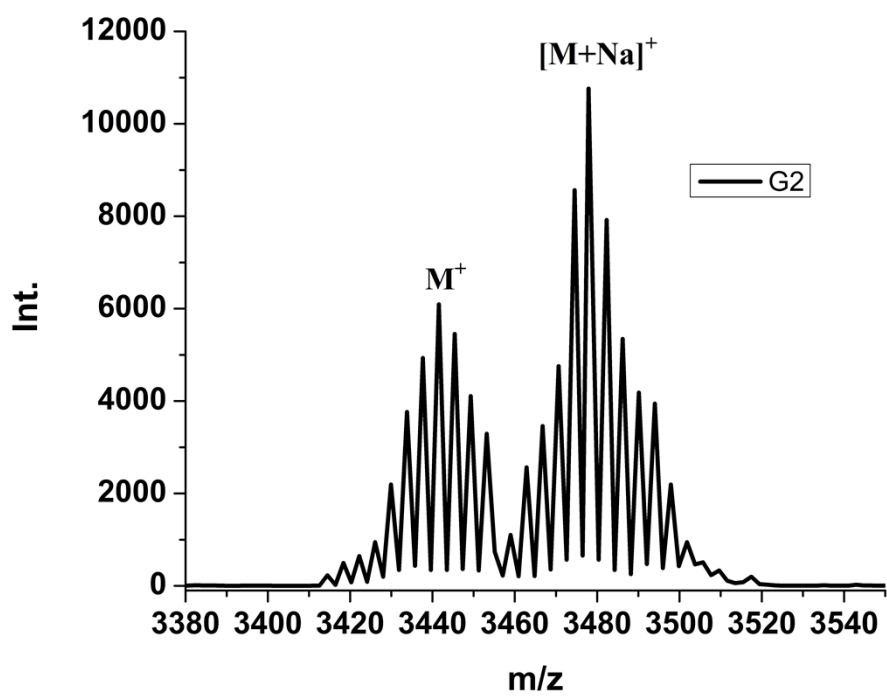


Figure S29: Isotopes distribution pattern of G2 blocked isocyanate terminated polyurethane dendrimer

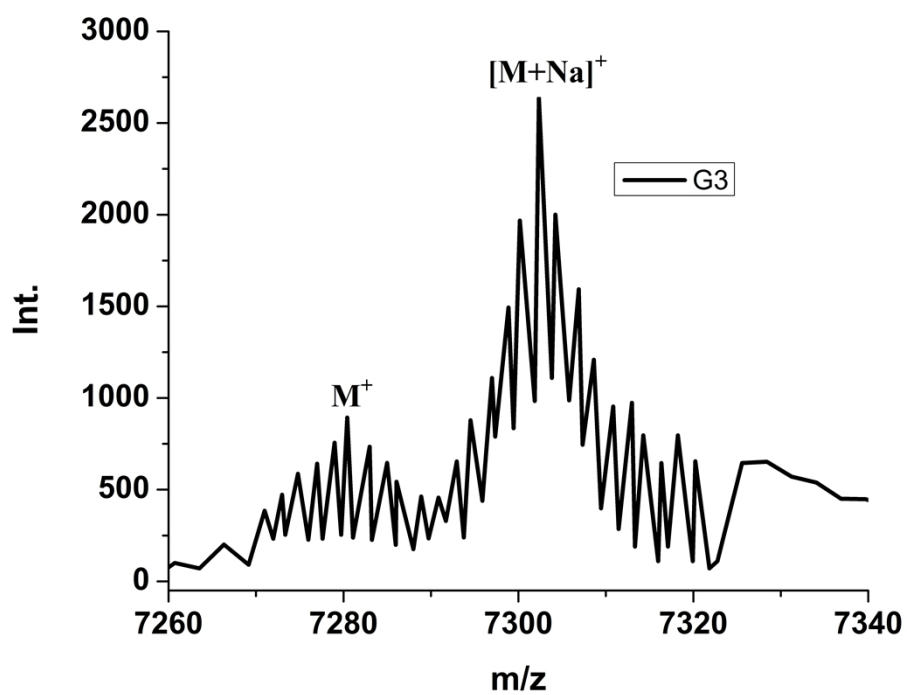


Figure S30: Isotopes distribution pattern of G3 blocked isocyanate terminated polyurethane dendrimer

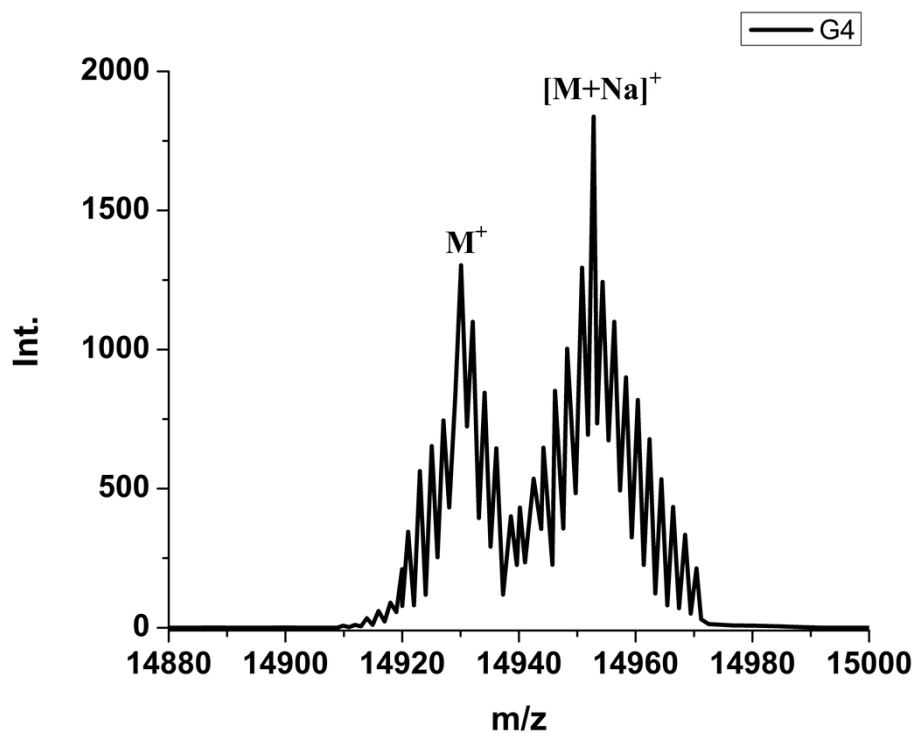


Figure S31: Isotopes distribution pattern of G3 blocked isocyanate terminated polyurethane dendrimer