Supporting Information for:

Acylgermanes: Photoinitiators and Sources for Ge-centered Radicals. Insights into their Reactivity

Dmytro Neshchadin,[†] Arnulf Rosspeintner,[‡] Markus Griesser,[†] Bernhard Lang,[‡] Sandra Mosquera-Vazquez,[‡] Eric Vauthey,[‡] Vitaly Gorelik,[†,**] Robert Liska,[||] Christian Hametner,[||] Beate Ganster,[||] Robert Saf,[§] Norbert Moszner,[⊥] and Georg Gescheidt[†,*]

[†]*Institute of Physical and Theoretical Chemistry, Graz University of Technology, Stremayrgasse 9, 8010 Graz, Austria*

[‡]*Département de Chimie Physique, Université de Genève, 30, quai Ernest-Ansermet, 1211 Genève 4, Switzerland*

[||]*Institute of Applied Synthetic Chemistry, Vienna University of Technology, Getreidemarkt 9/163/MC, 1060 Vienna, Austria*

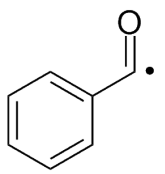
[§]*Institute of Chemistry and Technology of Materials, Graz University of Technology, Stremayrgasse 9, 8010 Graz, Austria*

[⊥]*Ivoclar Vivadent AG, Bendererstrasse 2, 9494 Schaan, Liechtenstein*

*Corresponding Author. E-Mail: g.gescheidt-demner@tugraz.at

**Dr. V. Gorelik, deceased February 6, 2012 on his expedition to the K2.

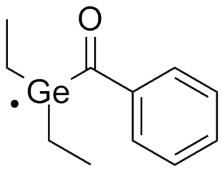
Contents:



B•

o-H: 0.002 mT (2)
m-H: 0.104 mT (2)
p-H: 0.015 mT

g_{calc} = 2.0006



G•

Ge: - 4.77 mT
β-H: 0.610 mT (4)
CH_3: -0.010 mT (6)

o-H: 0.037 mT (2)
m-H: 0.014 mT (2)
p-H: -0.003 mT

g_{calc} = 2.0079

Figure S1: Calculated (B3LYP/TZVP) ^{1}H hfcs of radicals **B•** and **G•.**

Table S1: Calculated geometries (Å) and SCF energy (B3LYP/TZVP) for **B•** and **G•**.

Radical **B•**
SCF = -345.040159

C	-0.29142600	2.05757700	0.00000000
C	0.00000000	0.60853500	0.00000000
C	1.32925300	0.18217200	0.00000000
C	-1.04092900	-0.33039100	0.00000000
C	1.62128600	-1.17630300	0.00000000
H	2.11987200	0.92217800	0.00000000
C	-0.74350200	-1.68457900	0.00000000
H	-2.06677600	0.01622900	0.00000000
C	0.58614200	-2.10671100	0.00000000
H	2.65127800	-1.51003100	0.00000000
H	-1.54349100	-2.41477900	0.00000000
H	0.81360300	-3.16584000	0.00000000
O	-1.34242900	2.60630500	0.00000000

Radical **G•**
SCF = -2580.6184633

C	-3.24457200	1.18020200	-0.92643300
C	-1.94857900	0.71371500	-0.73952000
C	-1.70748900	-0.40182200	0.06487900
C	-2.78488100	-1.04477000	0.68737700
C	-4.07662300	-0.57354400	0.50803200
C	-4.30880500	0.53932700	-0.29967900
H	-3.42472300	2.03999100	-1.55979700
H	-1.12050400	1.20313700	-1.24023400
H	-2.58559400	-1.91071100	1.30578900
H	-4.90672800	-1.07156900	0.99418100
H	-5.31904400	0.90383000	-0.44145800
C	-0.32398900	-0.91760400	0.28028400
O	-0.11679000	-2.00760500	0.78032300
Ge	1.32985900	0.17074200	-0.24967600
C	1.43649700	1.84351700	0.85549000
H	1.57610700	1.51512900	1.89079500
H	0.46396700	2.33747900	0.81136500
C	2.55316000	2.80614100	0.44196000
H	2.42013700	3.15901400	-0.58336500
H	2.57621300	3.68597100	1.09114400
H	3.53747600	2.33589900	0.50037500
C	2.90718400	-1.00193000	0.11268700
H	3.79650700	-0.36831500	0.07362500
H	2.79419700	-1.33632200	1.14851400
C	3.04888900	-2.20196600	-0.82579800
H	3.92481400	-2.80260500	-0.56463200
H	2.17552100	-2.85344200	-0.76919700
H	3.16572300	-1.88800500	-1.86574000

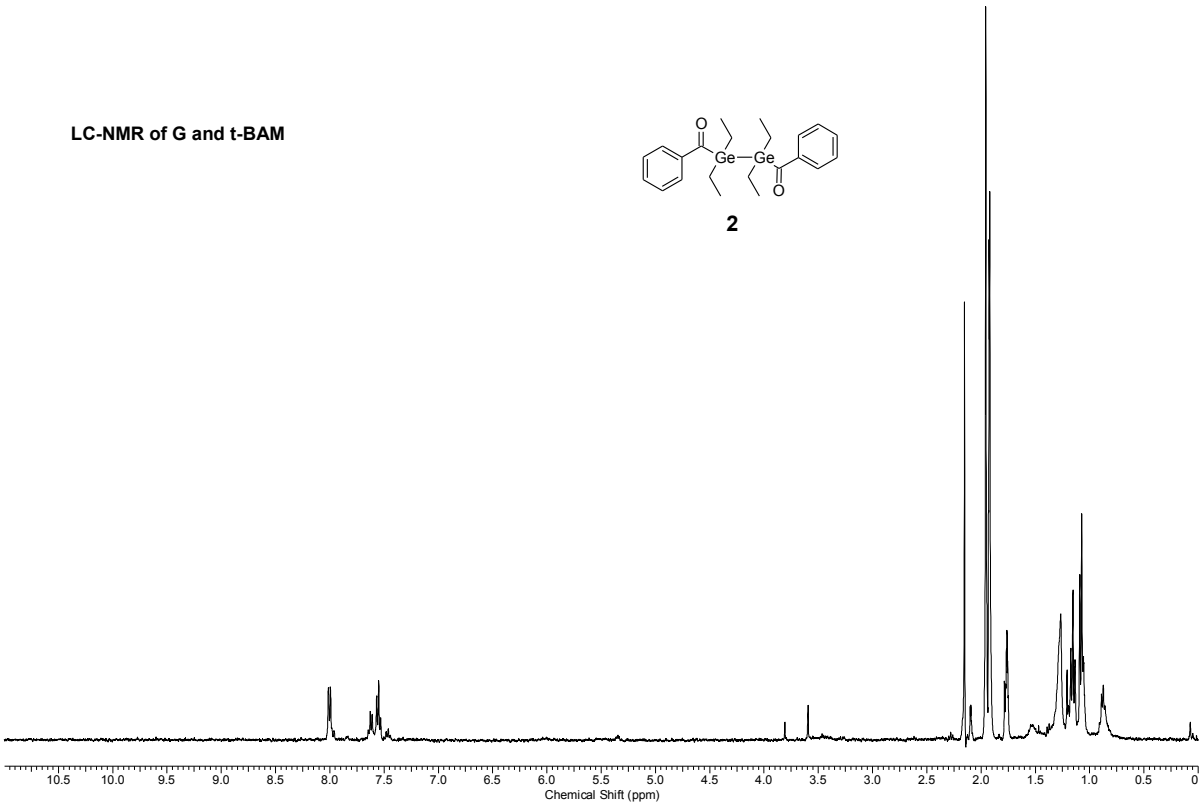


Figure S2: LC-NMR spectrum of **2.**

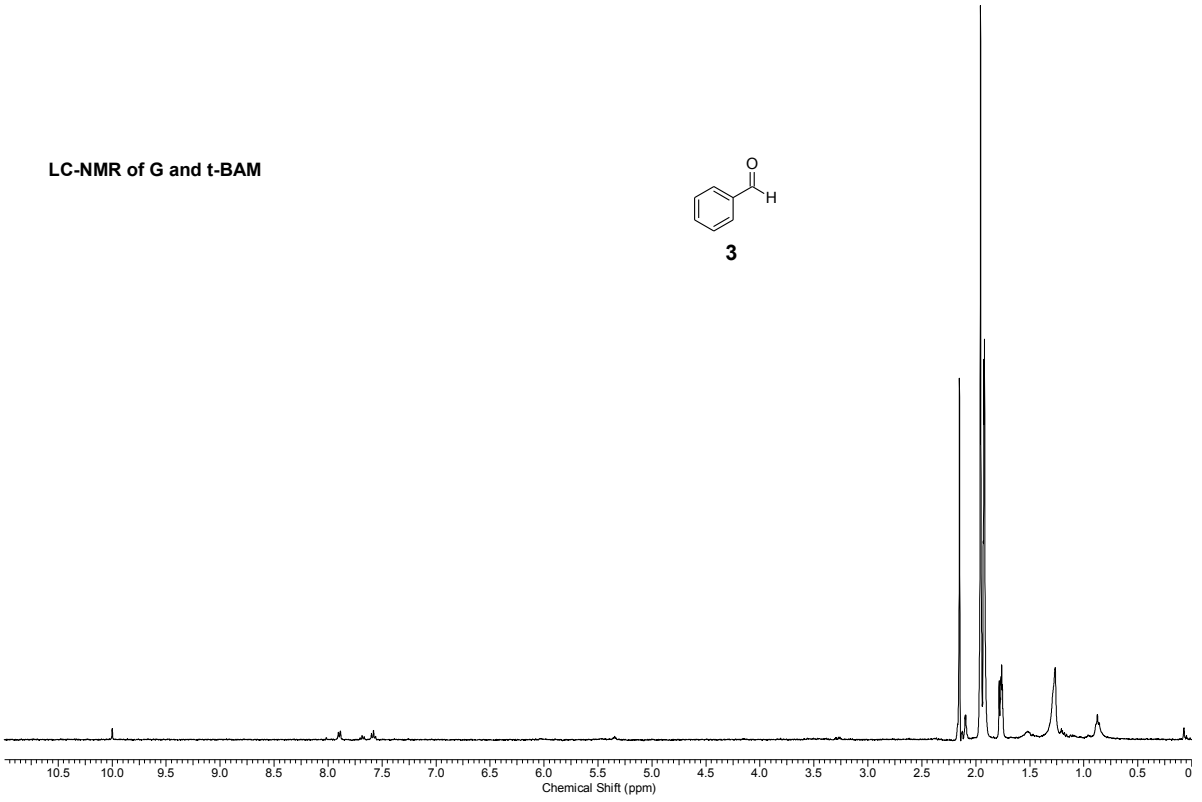


Figure S3: LC-NMR spectrum of **3.**

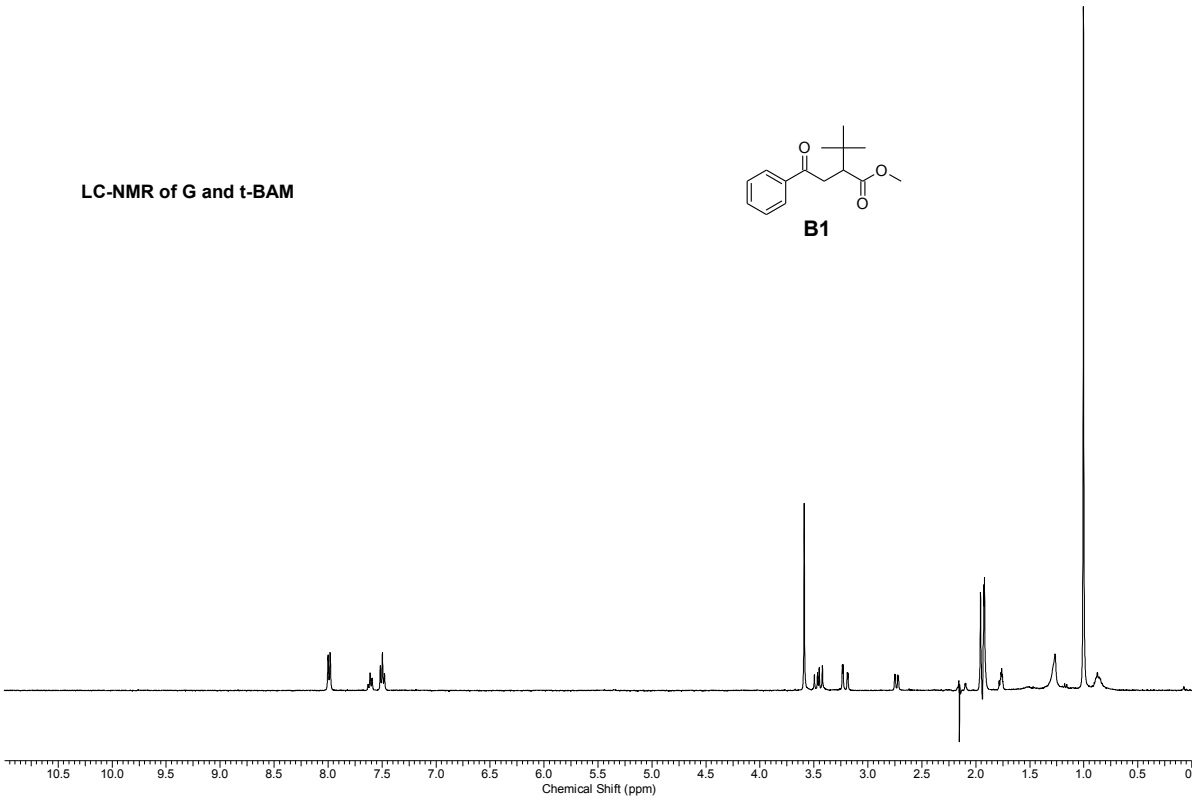


Figure S4: LC-NMR spectrum of **B1.**

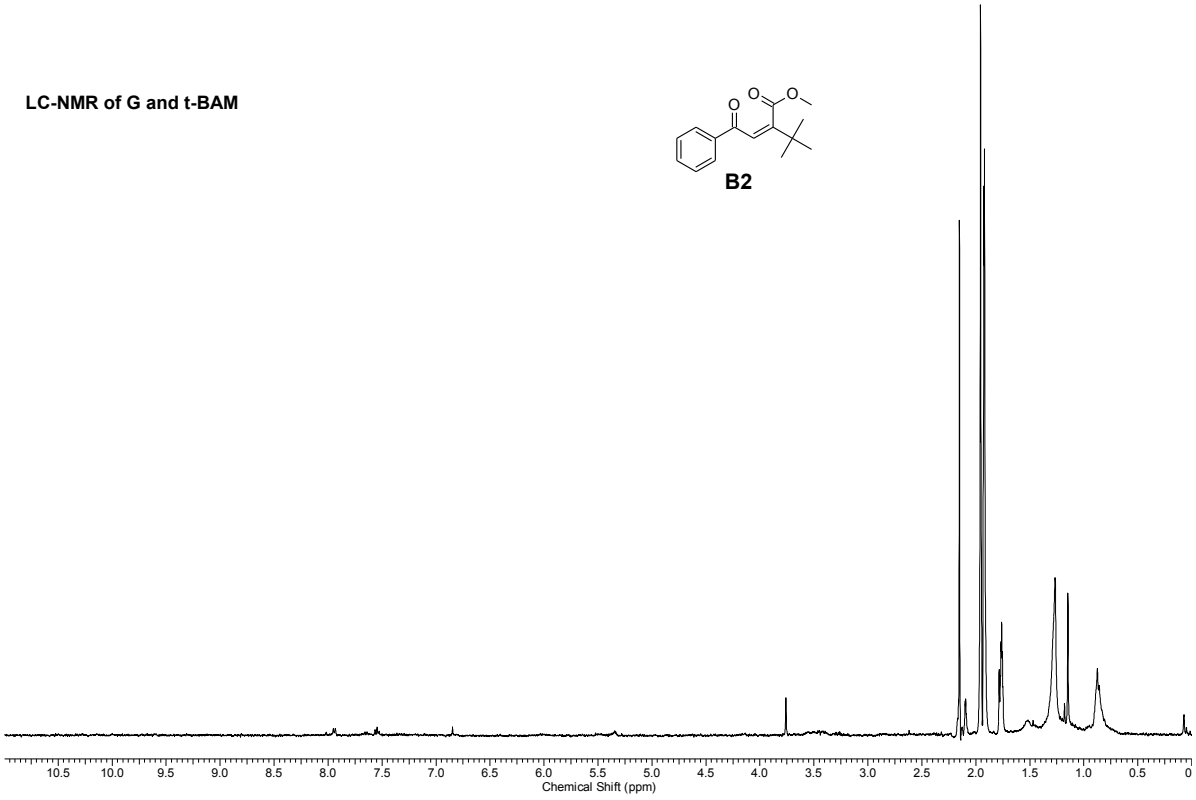


Figure S5: LC-NMR spectrum of **B2.**

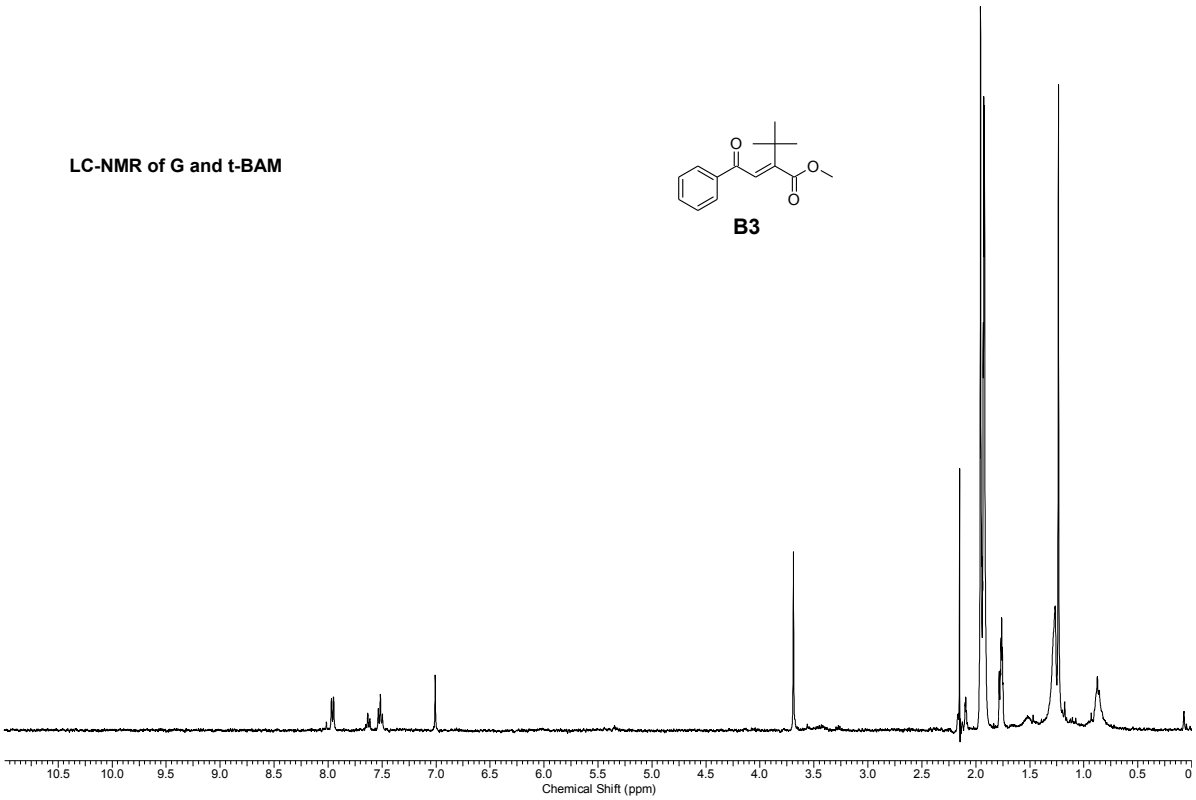


Figure S6: LC-NMR spectrum of **B3.**

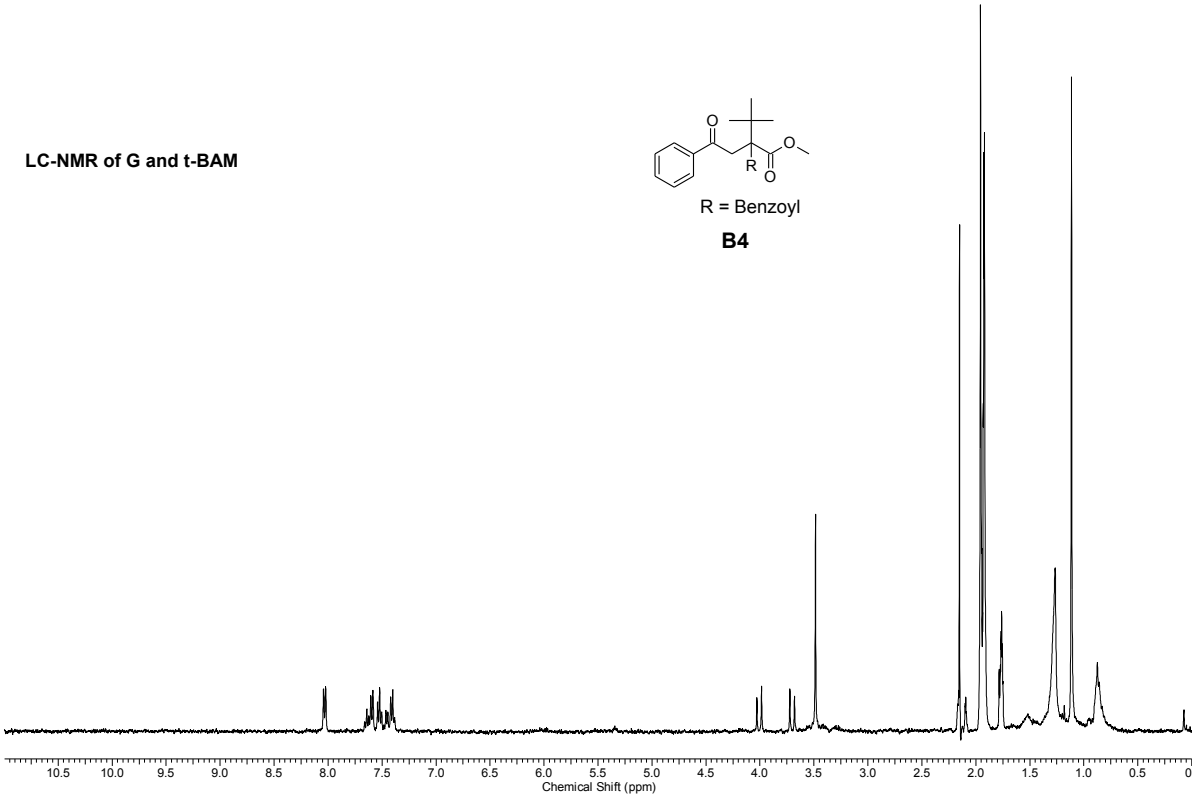


Figure S7: LC-NMR spectrum of **B4.**

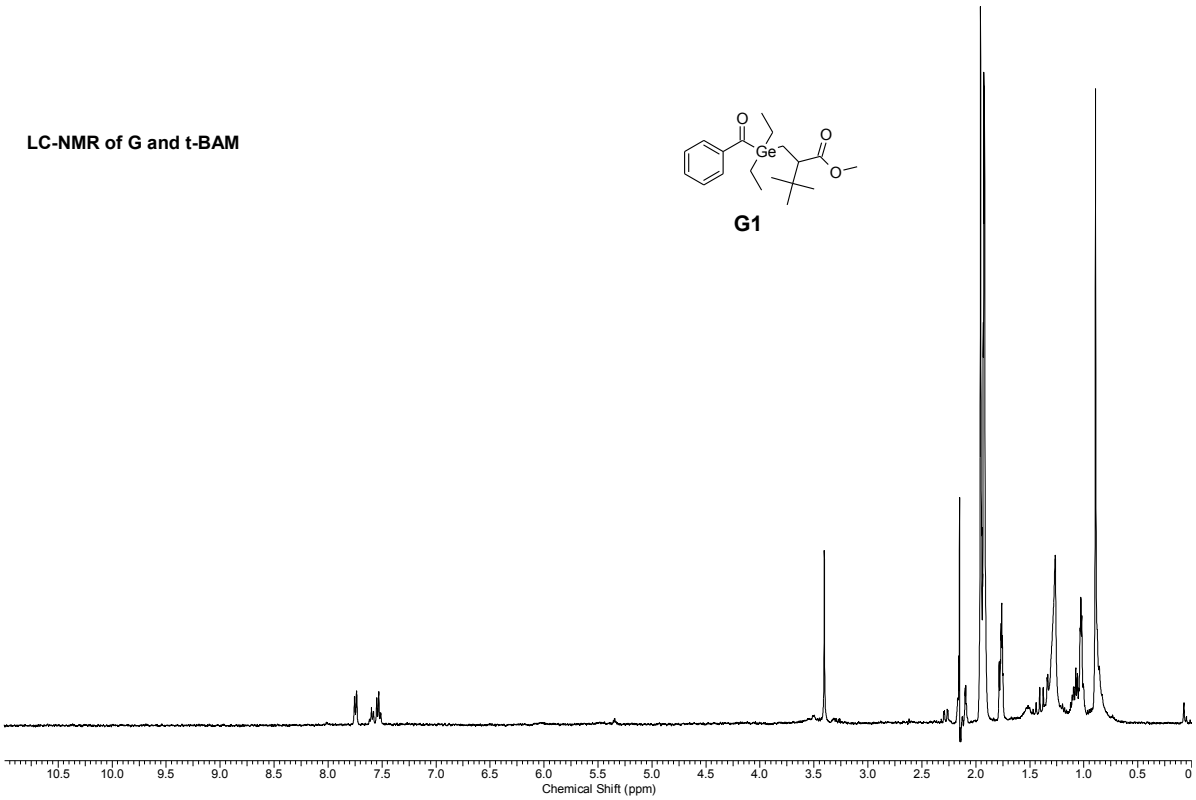


Figure S8: LC-NMR spectrum of **G1.**

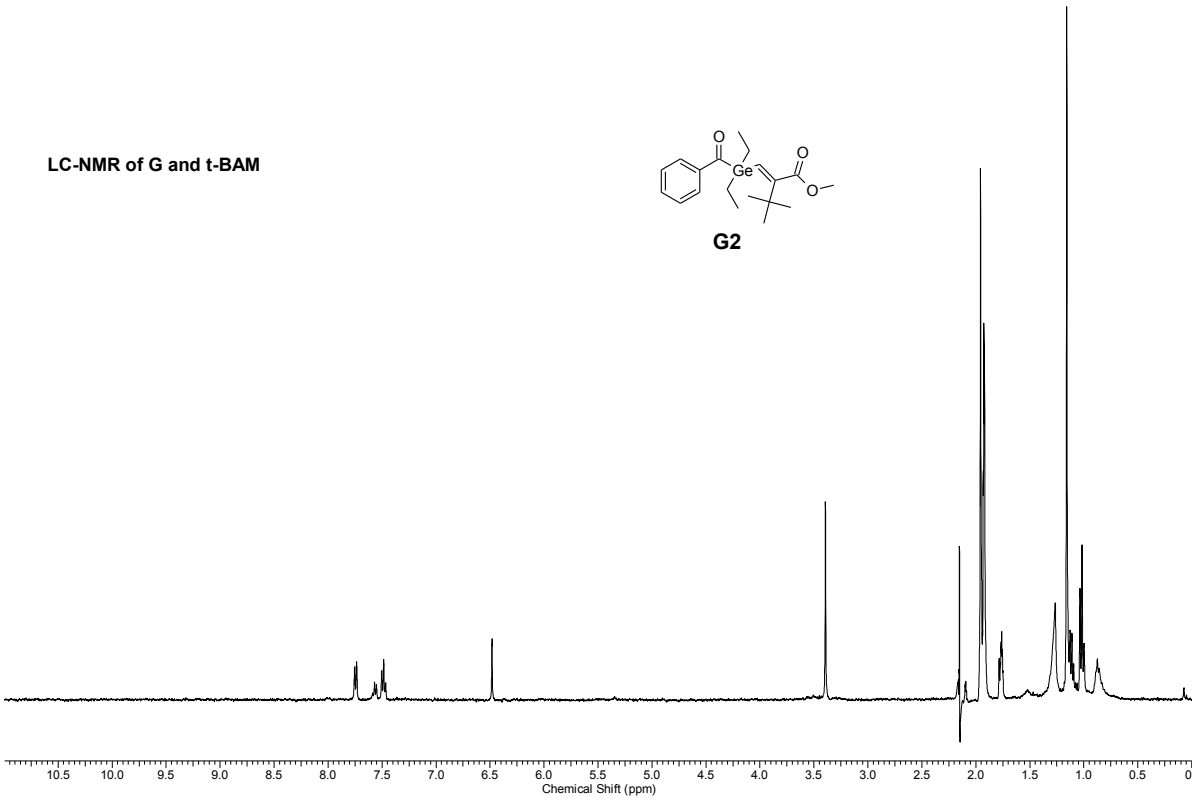


Figure S9: LC-NMR spectrum of **G2.**

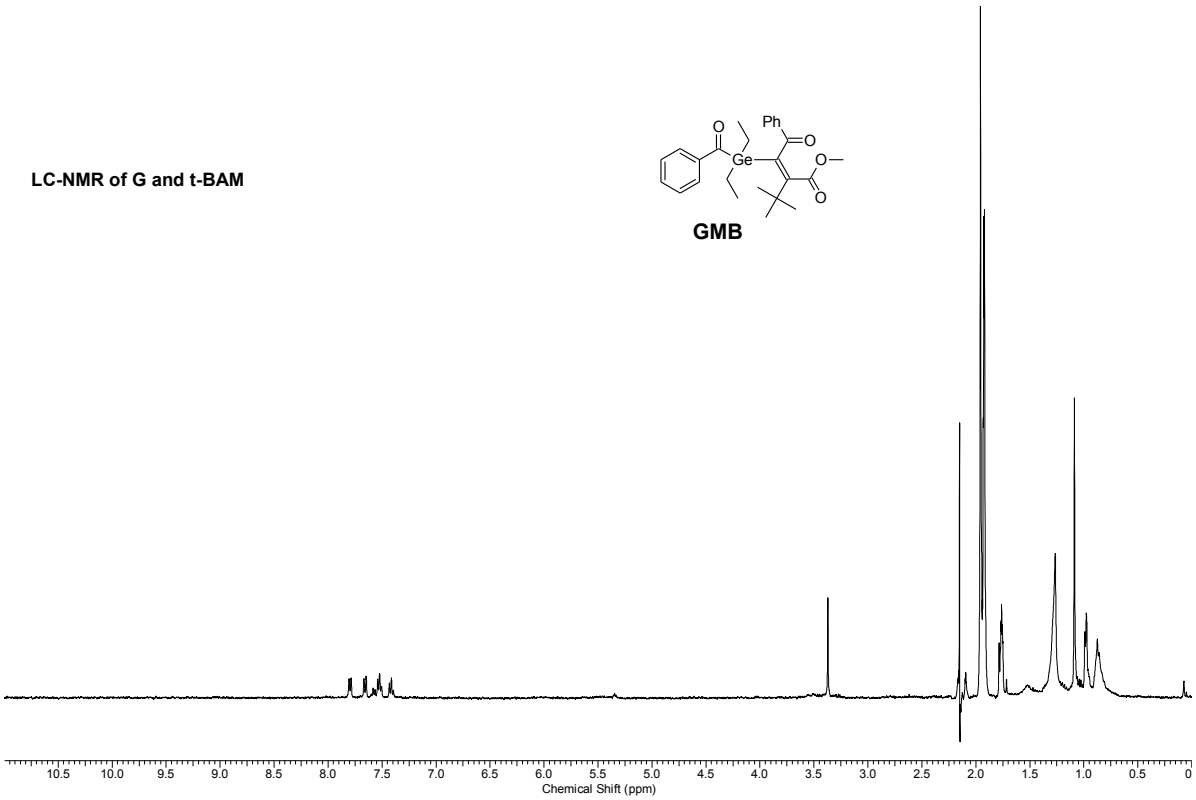


Figure S10: LC-NMR spectrum of **GMB.**