Electronic Supporting Information

Table S1. Standard deviations, limits of detection and limits of quantification for ICP-OES.

Element	SD/ppb	LOD/ppb	LOQ/ppb
Co	0.14	0.40	1.40
Cu	0.15	0.42	1.46
Ni	0.11	0.33	1.14
Pd	0.16	0.48	1.60
Ru	0.20	0.60	2.00

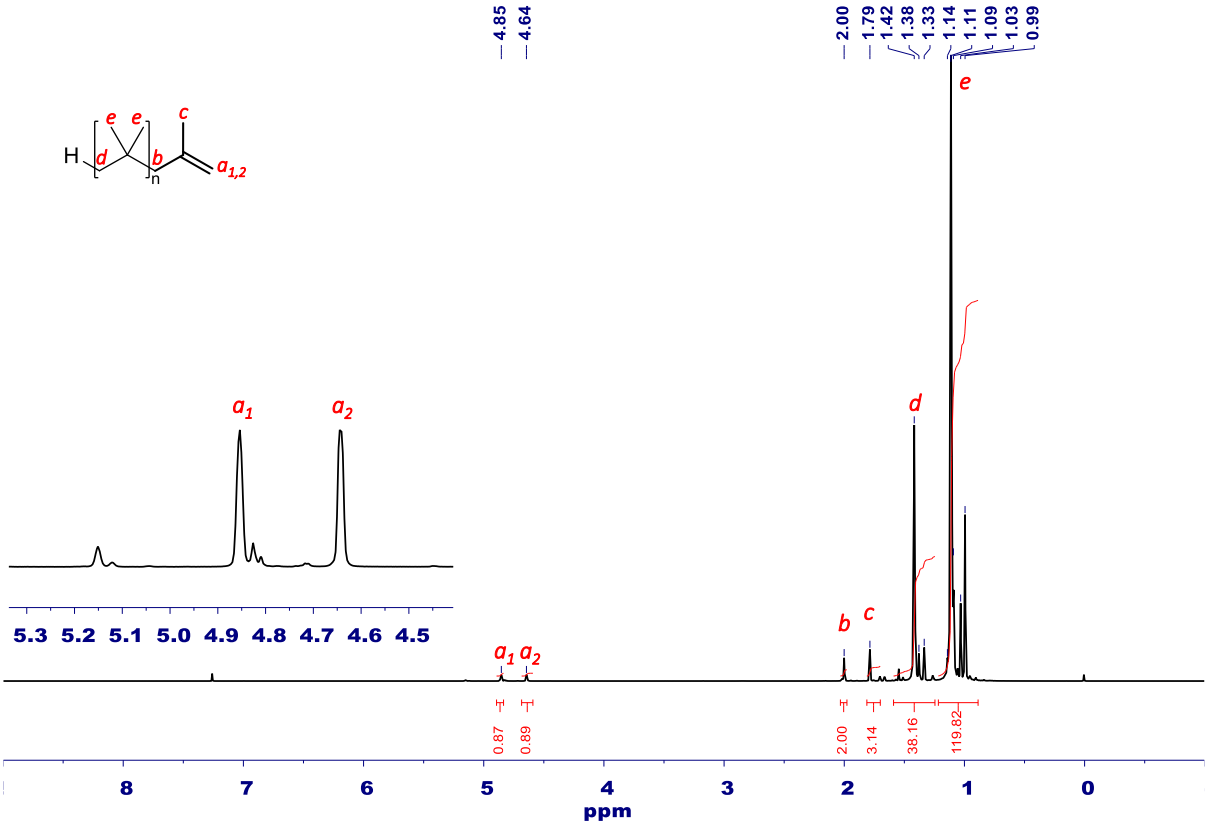


Figure S1. ^{1}H-NMR spectrum of the starting alkene terminated PIB.

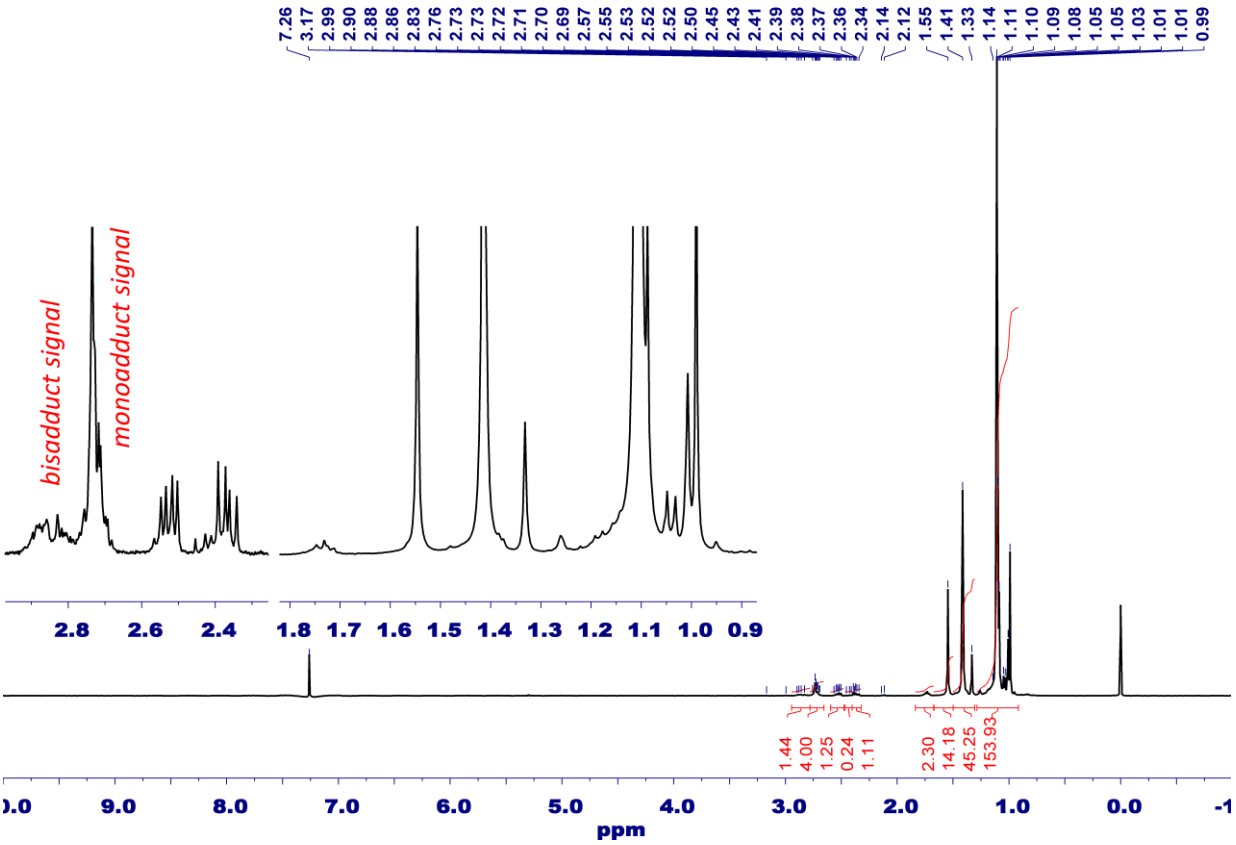


Figure S2. [1]H-NMR spectrum of the crude mixture of **1** and **2**.

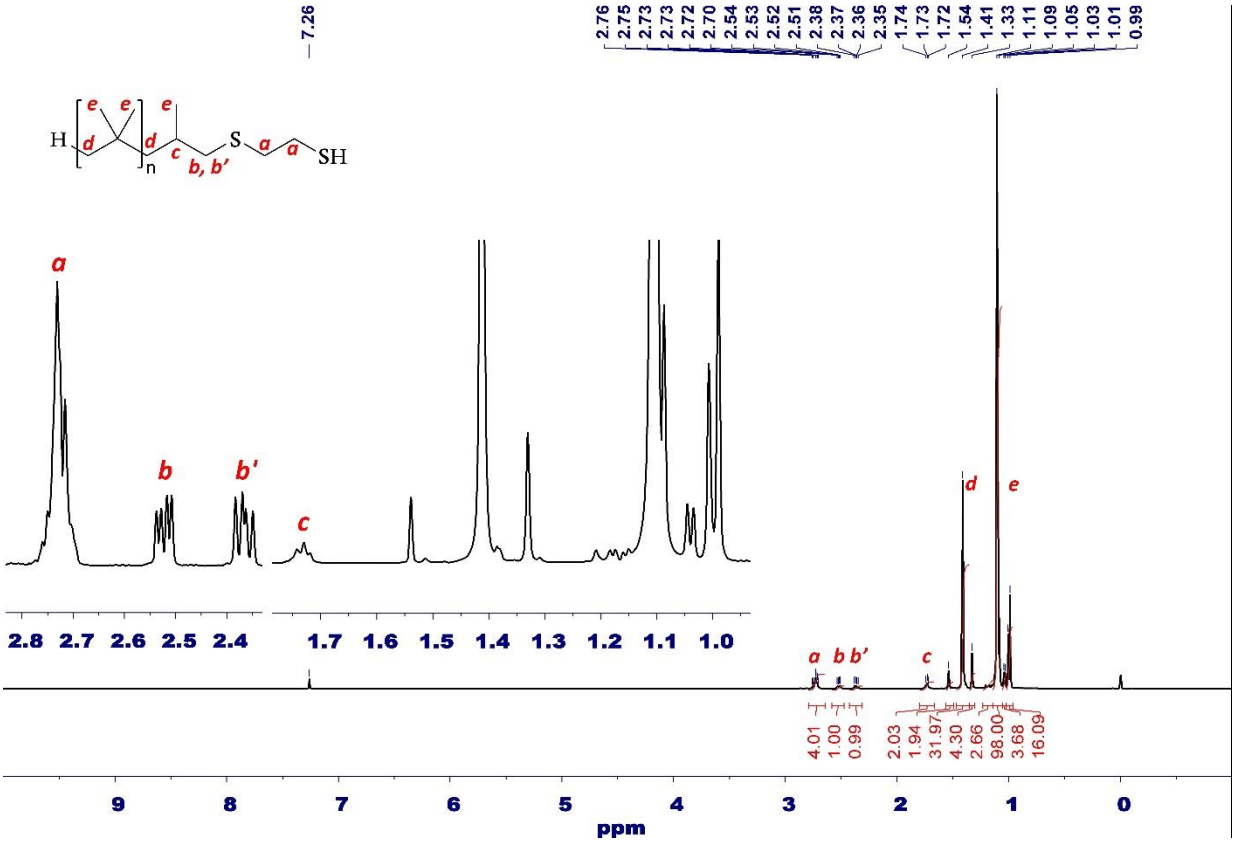


Figure S3. [1]H-NMR spectrum of ((2-mercaptoethyl)thio)polyisobutylene **1**.

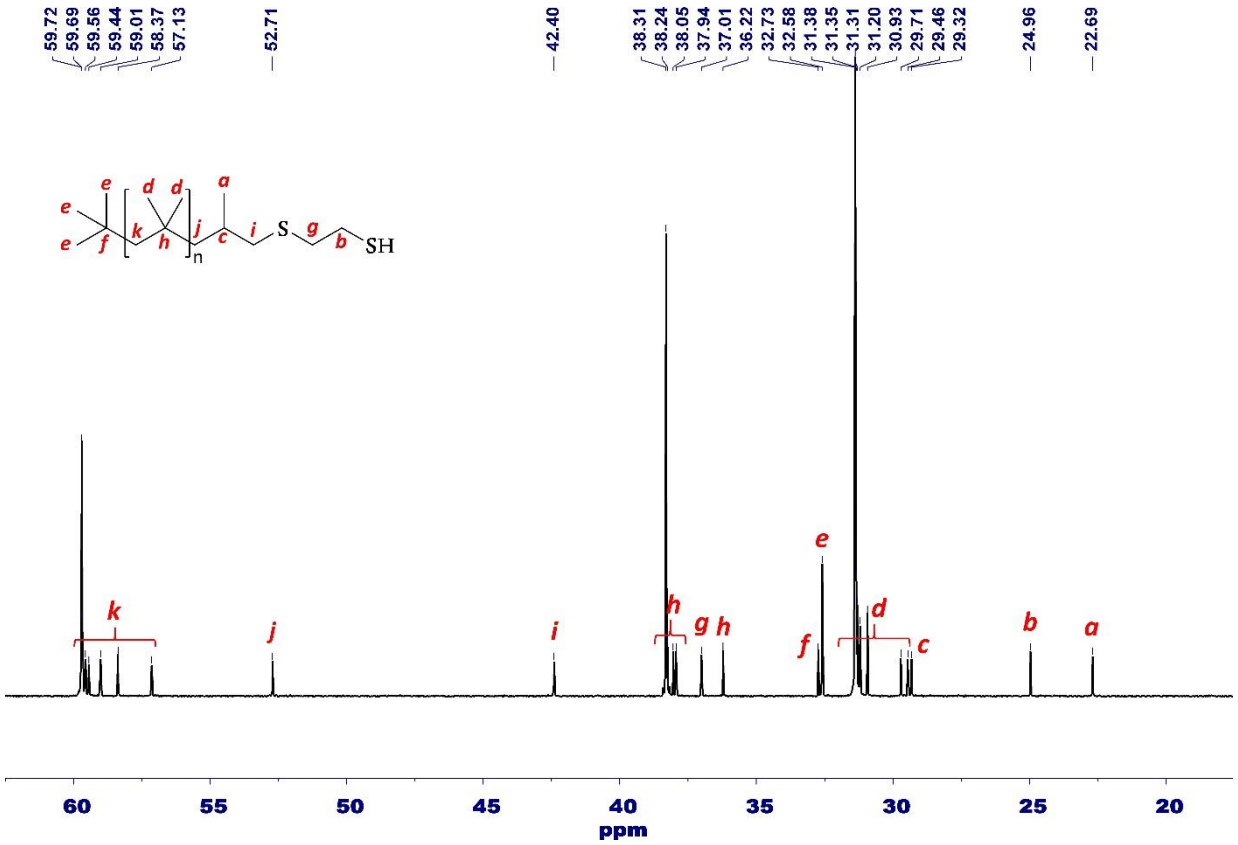


Figure S4. $^{13}C\{^{1}H\}$ NMR spectrum of ((2-mercaptoethyl)thio)polyisobutylene **1**.

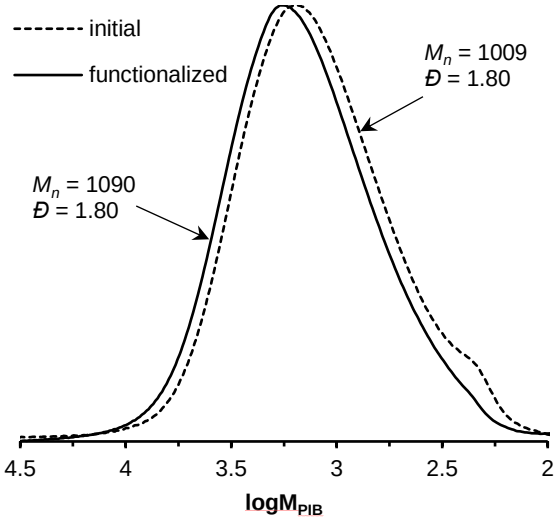
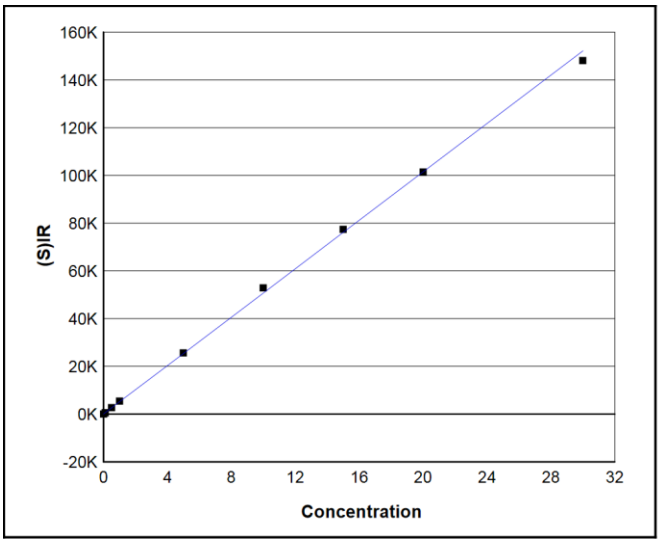
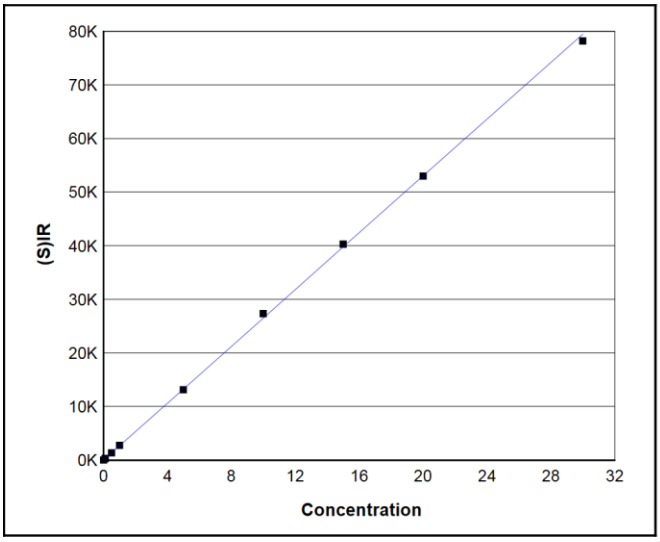


Figure S5. SEC traces of PIB before and after functionalization.



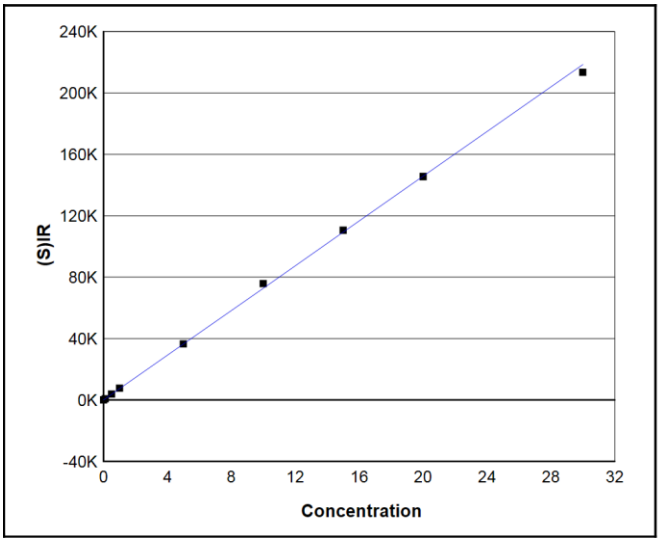
Element Name:	Co
Element Wavelength:	Co 228.616 nm
Concentration Units:	ppm

Type of Fit:	Linear		
Correlation:	0.9997		
A0 (Offset):	-3.994		
A1 (Gain):	5,074		
A2 (Curvature):	0.0000		
n (Exponent):	1.000		
Reslope		**QC Normalize**	
Slope:	1.000	**Slope factor:**	1.000
Y Int:	0.0000	**Offset:**	0.0000



Element Name:	Co
Element Wavelength:	Co 235.342 nm
Concentration Units:	ppm

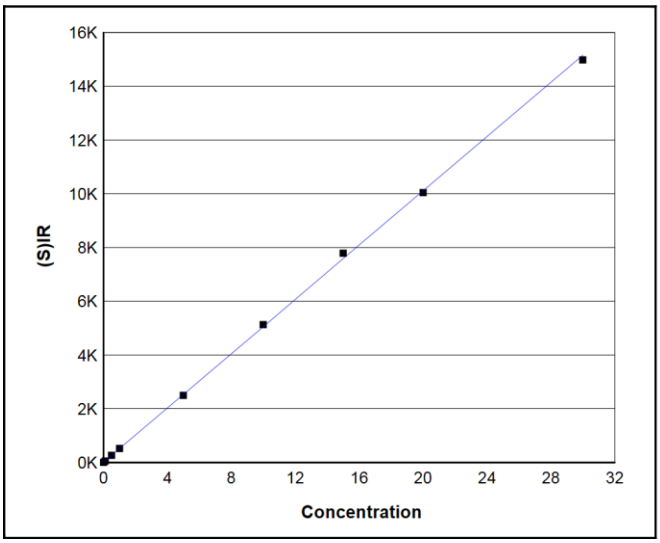
Type of Fit:	Linear		
Correlation:	0.9999		
A0 (Offset):	18.21		
A1 (Gain):	2,650		
A2 (Curvature):	0.0000		
n (Exponent):	1.000		
Reslope		**QC Normalize**	
Slope:	1.000	**Slope factor:**	1.000
Y Int:	0.0000	**Offset:**	0.0000



Element Name:	Co
Element Wavelength:	Co 238.892 nm
Concentration Units:	ppm

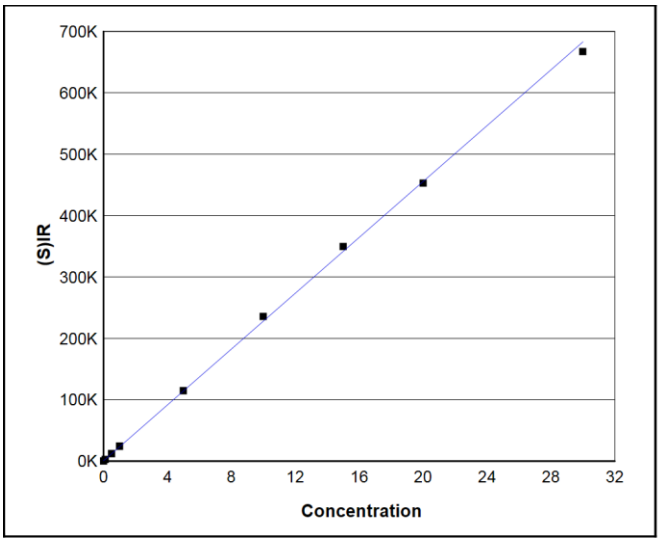
Type of Fit:	Linear		
Correlation:	0.9997		
A0 (Offset):	-29.29		
A1 (Gain):	7,287		
A2 (Curvature):	0.0000		
n (Exponent):	1.000		
Reslope		**QC Normalize**	
Slope:	1.000	**Slope factor:**	1.000
Y Int:	0.0000	**Offset:**	0.0000

Figure S6. ICP-OES calibration curves for Co.



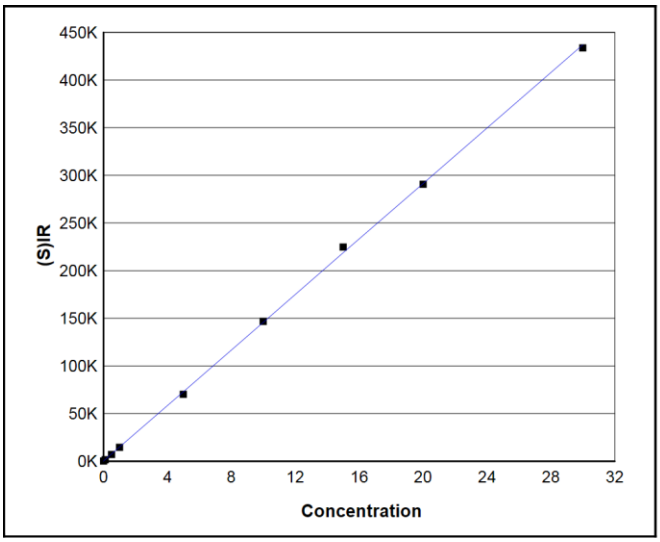
Element Name:	Cu
Element Wavelength:	Cu 204.379 nm
Concentration Units:	ppm

Type of Fit:	Linear		
Correlation:	0.9999		
A0 (Offset):	7.390		
A1 (Gain):	505.1		
A2 (Curvature):	0.0000		
n (Exponent):	1.000		
Reslope		**QC Normalize**	
Slope:	1.000	**Slope factor:**	1.000
Y Int:	0.0000	**Offset:**	0.0000



Element Name:	Cu
Element Wavelength:	Cu 324.754 nm
Concentration Units:	ppm

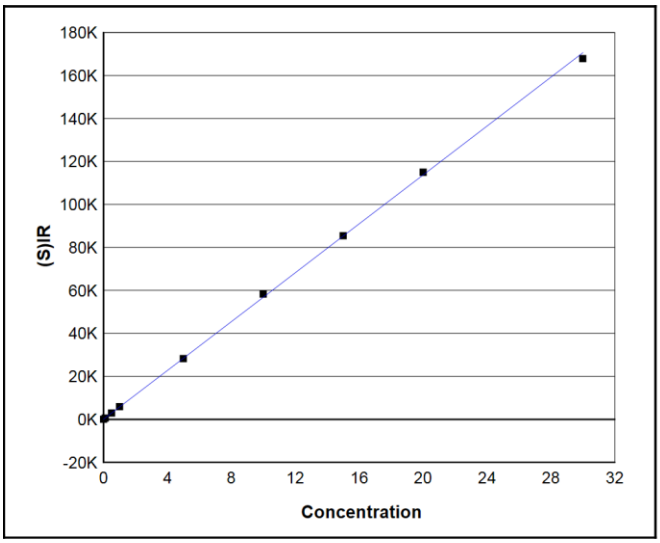
Type of Fit:	Linear		
Correlation:	0.9997		
A0 (Offset):	234.1		
A1 (Gain):	22,760		
A2 (Curvature):	0.0000		
n (Exponent):	1.000		
Reslope		**QC Normalize**	
Slope:	1.000	**Slope factor:**	1.000
Y Int:	0.0000	**Offset:**	0.0000



Element Name:	Cu
Element Wavelength:	Cu 327.396 nm
Concentration Units:	ppm

Type of Fit:	Linear		
Correlation:	0.9999		
A0 (Offset):	92.11		
A1 (Gain):	14,560		
A2 (Curvature):	0.0000		
n (Exponent):	1.000		
Reslope		**QC Normalize**	
Slope:	1.000	**Slope factor:**	1.000
Y Int:	0.0000	**Offset:**	0.0000

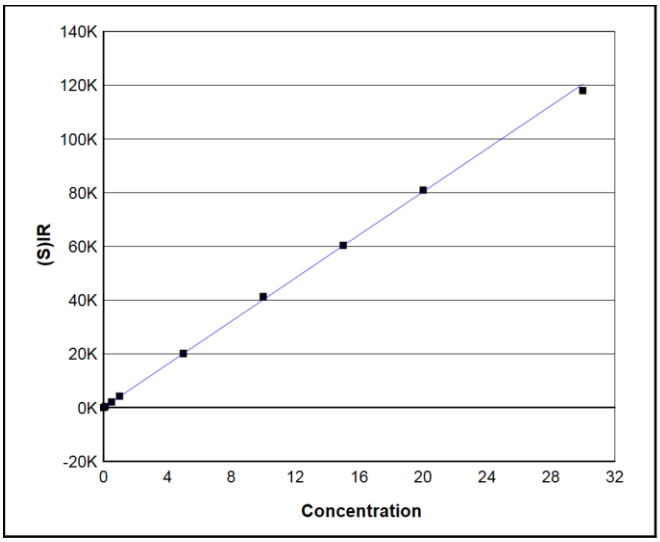
Figure S7. ICP-OES calibration curves for Cu.



Element Name:	Ni
Element Wavelength:	Ni 221.647 nm
Concentration Units:	ppm

Type of Fit:	Linear
Correlation:	0.9999
A0 (Offset):	-10.15
A1 (Gain):	5,688
A2 (Curvature):	0.0000
n (Exponent):	1.000

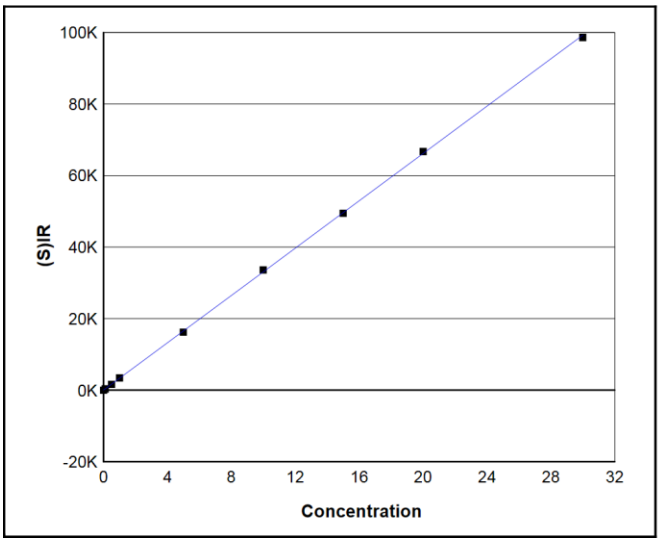
Reslope		**QC Normalize**	
Slope:	1.000	**Slope factor:**	1.000
Y Int:	0.0000	**Offset:**	0.0000



Element Name:	Ni
Element Wavelength:	Ni 231.604 nm
Concentration Units:	ppm

Type of Fit:	Linear
Correlation:	0.9998
A0 (Offset):	-2.631
A1 (Gain):	4,014
A2 (Curvature):	0.0000
n (Exponent):	1.000

Reslope		**QC Normalize**	
Slope:	1.000	**Slope factor:**	1.000
Y Int:	0.0000	**Offset:**	0.0000

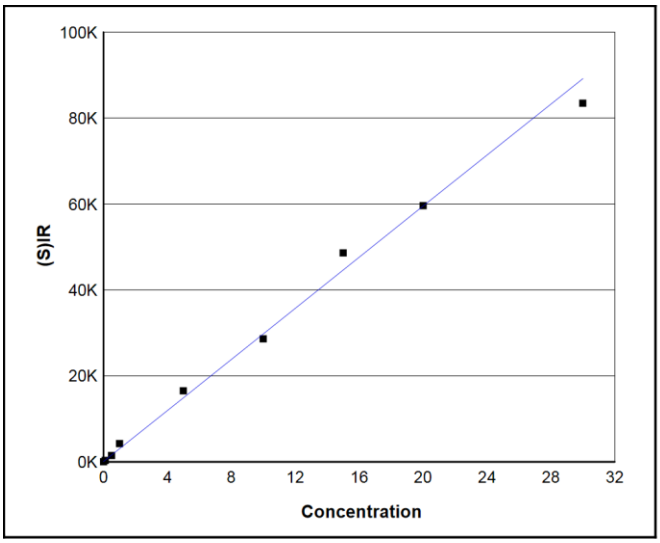


Element Name:	Ni
Element Wavelength:	Ni 341.476 nm
Concentration Units:	ppm

Type of Fit:	Linear
Correlation:	0.9999
A0 (Offset):	-2.941
A1 (Gain):	3,310
A2 (Curvature):	0.0000
n (Exponent):	1.000

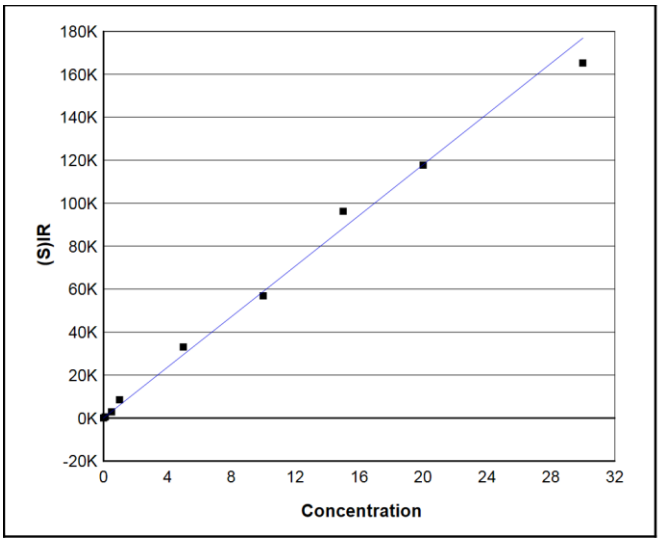
Reslope		**QC Normalize**	
Slope:	1.000	**Slope factor:**	1.000
Y Int:	0.0000	**Offset:**	0.0000

Figure S8. ICP-OES calibration curves for Ni.



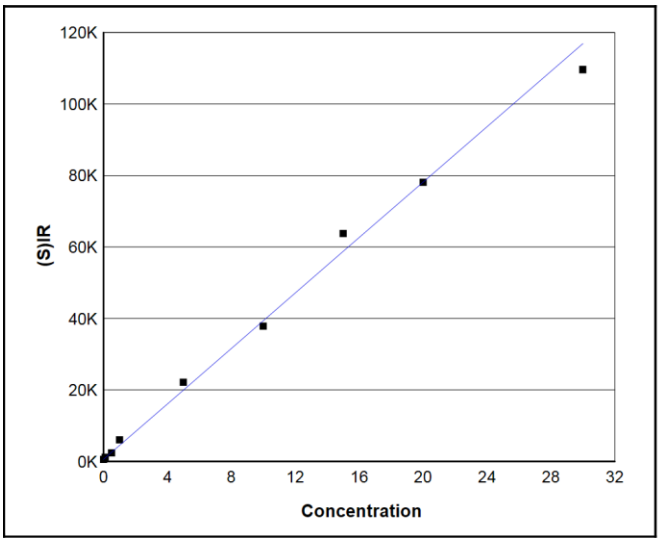
Element Name:	Pd
Element Wavelength:	Pd 324.270 nm
Concentration Units:	ppm

Type of Fit:	Linear		
Correlation:	0.9970		
A0 (Offset):	36.66		
A1 (Gain):	2,973		
A2 (Curvature):	0.0000		
n (Exponent):	1.000		
Reslope		**QC Normalize**	
Slope:	1.000	**Slope factor:**	1.000
Y Int:	0.0000	**Offset:**	0.0000



Element Name:	Pd
Element Wavelength:	Pd 340.458 nm
Concentration Units:	ppm

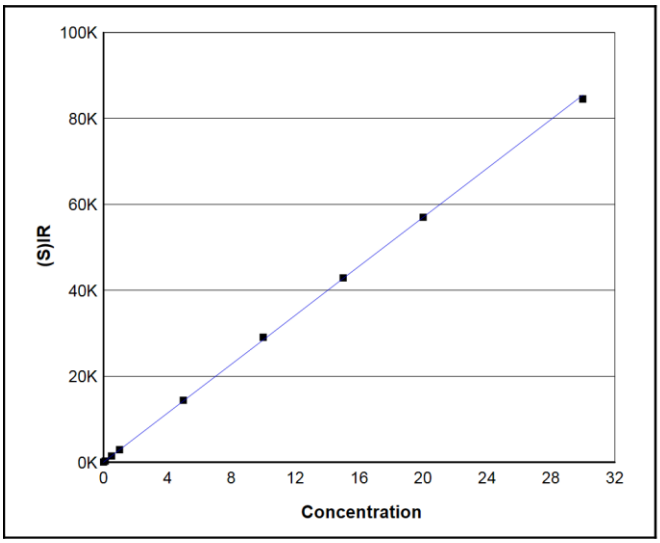
Type of Fit:	Linear		
Correlation:	0.9968		
A0 (Offset):	-8.529		
A1 (Gain):	5,895		
A2 (Curvature):	0.0000		
n (Exponent):	1.000		
Reslope		**QC Normalize**	
Slope:	1.000	**Slope factor:**	1.000
Y Int:	0.0000	**Offset:**	0.0000



Element Name:	Pd
Element Wavelength:	Pd 363.470 nm
Concentration Units:	ppm

Type of Fit:	Linear		
Correlation:	0.9969		
A0 (Offset):	579.0		
A1 (Gain):	3,879		
A2 (Curvature):	0.0000		
n (Exponent):	1.000		
Reslope		**QC Normalize**	
Slope:	1.000	**Slope factor:**	1.000
Y Int:	0.0000	**Offset:**	0.0000

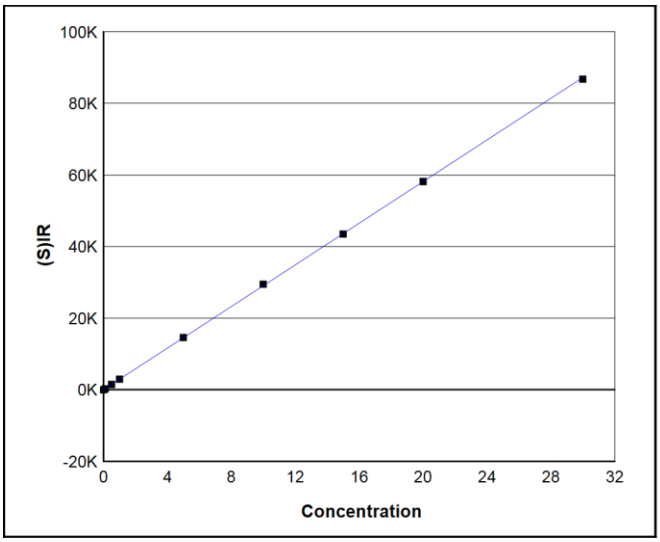
Figure S9. ICP-OES calibration curves for Pd.



Element Name:	Ru
Element Wavelength:	Ru 240.272 nm
Concentration Units:	ppm

Type of Fit:	Linear
Correlation:	0.9999
A0 (Offset):	1.250
A1 (Gain):	2,850
A2 (Curvature):	0.0000
n (Exponent):	1.000

Reslope		**QC Normalize**	
Slope:	1.000	**Slope factor:**	1.000
Y Int:	0.0000	**Offset:**	0.0000



Element Name:	Ru
Element Wavelength:	Ru 267.876 nm
Concentration Units:	ppm

Type of Fit:	Linear
Correlation:	1.0000
A0 (Offset):	-7.935
A1 (Gain):	2,908
A2 (Curvature):	0.0000
n (Exponent):	1.000

Reslope		**QC Normalize**	
Slope:	1.000	**Slope factor:**	1.000
Y Int:	0.0000	**Offset:**	0.0000

Figure S10. ICP-OES calibration curves for Ru.