

CPA

Parameter	Member A		Member B	Member C	
UV Visible					
Sample concentration	32,8 % w/w				
Solvent	3M HCl (1:1000)	3M HCl (1:100000)	3M HCl (1:100000)	3M HCl (1:25000)	Water (1:25000)
Equipment				Unicam UV4 Spectrometer	UV/Visible
Measurement / Signal	Absorbance		Absorbance	Absorbance	
Wavelength range	190 - 1100 nm		190 - 1100 nm	200 - 750 nm	190 - 790 nm
Scan rate	10 nm/s			120 nm/min	
Bandwith / Step Size				1 nm	
Data points / Slit	1 nm			1 nm	
Cell				Far UV	
Pathlength				10 mm	
Reference / Correction	Cell filled with 3M HCl		Cell filled with 3M HCl	Cell filled with 3M HCl	Cell filled with water
Change of light source	320 nm				

Parameter	Member A	Member B	Member C
Raman			
Equipment		Bruker FT-Ramanspektrometer RFS 100	Perkin Elmer Spectrum GX NIR FT-Raman spectrometer
Resolution	2	4 (cm ⁻¹)	8 (cm ⁻¹)
Interval	0,5	0,5	1 (cm ⁻¹)
Wavelength Range	3500 - 100 (cm ⁻¹)		3500 - 100 (cm ⁻¹)
Power / Laser	500 mW	500 mW	600 mW
Sample scans	100	100	10

Pt (IV) Nitrate

Parameter	Member A	Member B	Member C	
UV Visible				
Sample concentration	15 % w/w			
Solvent	3M HNO ₃ (1:1000)	3M HNO ₃ (1:100000)	3M HNO ₃ (1:25000)	Water NO CONCENTRATION
Equipment			Unicam Spectrometer	UV4 UV/Visible
Measurement / Signal	Absorbance	Absorbance	Absorbance	
Wavelength range	190 - 1100 nm	190 - 1100 nm	200 - 750 nm	190 - 790 nm
Scan rate	10 nm/s		120 nm/min	
Bandwith / Step Size		0,2 nm	1 nm	
Data points / Slit	1 nm		1 nm	
Cell			Far UV	
Pathlength			10 mm	
Reference / Correction	Cell filled with 3M HNO ₃	Cell filled with 3M HNO ₃	Cell filled with 3M HNO ₃	Cell filled with water
Change of light source		320 nm		

Parameter	Member A	Member B	Member C
Raman			
Equipment		Bruker FT-Ramanspektrometer RFS 100	Perkin Elmer Spectrum GX NIR FT-Raman spectrometer
Resolution	2	4 (cm ⁻¹)	8 (cm ⁻¹)
Interval	0,5	0,5	1 (cm ⁻¹)
Wavelength Range	3500 - 100 (cm ⁻¹)	3500 - 100 (cm ⁻¹)	3500 - 100 (cm ⁻¹)
Power / Laser	500 Mw	500 mW	500 mW
Sample scans	100	100	10

Pd (II) Nitrate

Parameter	Member A	Member B	Member C	
UV Visible				
Sample concentration	16,2 % w/w			
Solvent	3M HNO ₃ (1:10000)	3M HNO ₃ (1:100000)	3M HNO ₃ (1:25000)	Water (1:25000)
Equipment			Unicam UV4 Spectrometer	UV/Visible
Measurement / Signal	Absorbance	Absorbance	Absorbance	
Wavelength range	190 - 1100 nm	190 - 1100 nm	200 - 750 nm	190 - 790 nm
Scan rate	10 nm/s		120 nm/min	
Bandwith / Step Size		0,2 nm	1 nm	
Data points / Slit	1 nm		1 nm	
Cell			Far UV	
Pathlength			10 mm	
Reference / Correction	Cell filled with 3M HNO ₃	Cell filled with 3M HNO ₃	Cell filled with 3M HNO ₃	Cell filled with water
Change of light source		320 nm		

Parameter	Member A	Member B	Member C
Raman			
Equipment		Bruker FT-Ramanspektrometer RFS 100	Perkin Elmer Spectrum GX NIR FT-Raman spectrometer
Resolution	2	4 (cm ⁻¹)	8 (cm ⁻¹)
Interval	0,5	0,5	1 (cm ⁻¹)
Wavelength Range	3500 - 100 (cm ⁻¹)	3500 - 100 (cm ⁻¹)	3500 - 100 (cm ⁻¹)
Power / Laser	1000 mW	500 mW	500 mW
Sample scans	100	100	10

Ru (III) Chloride

Parameter	Member A		Member B	Member C		
UV Visible						
Sample concentration	20 % w/w					
Solvent	3M HCl (1:100)	3M HCl (1:100000)	3M HCl (1:1000)	3M HCl (1:50000)	Water (1:50000)	Water (1:5000)
Equipment				Unicam UV4 UV/Visible Spectrometer		
Measurement / Signal	Absorbance		Absorbance	Absorbance		
Wavelength range	190 - 1100 nm		190 - 1100 nm	200 - 750 nm	190 - 790 nm	190 - 290 nm
Scan rate	10 nm/s			120 nm/min		
Bandwith / Step Size	0,05	0,1	0,2 nm	1 nm		
Data points / Slit	1 nm			1 nm		
Cell				Far UV		
Pathlength				10 mm		
Reference / Correction	Cell filled with 3M HCl		Cell filled with 3M HCl	Cell filled with 3M HCl	Cell filled with water	
Change of light source			320 nm			

Parameter	Member A	Member B	Member C
Raman			
Equipment		Bruker FT-Ramanspektrometer RFS 100	Perkin Elmer Spectrum GX NIR FT-Raman spectrometer
Resolution	2	4 (cm ⁻¹)	8 (cm ⁻¹)
Interval	0,5	0,5	1 (cm ⁻¹)
Wavelength Range	3500 - 100 (cm ⁻¹)	3500 - 100 (cm ⁻¹)	3500 - 100 (cm ⁻¹)
Power / Laser	507 mW	300 mW	420 mW
Sample scans	100	1000	10