



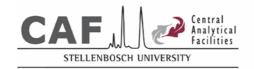
NUCLEAR MAGNETIC RESONANCE (NMR) 2021 Prices (In South African Rand)

An additional admin fee of 7% will be levied for both Academic and Industry clients.

Instrument access/hr	Self -run	Admin fee	Service fee/h	nr Total			
Internal Standard ¹ H spectra	R 49	R 0	R27	R76			
Internal Rate	R 145	R O	R66	R211			
External Academic rate	R 240	7%	R301	R542			
Commercial rate	R 328	7%	R394	R722			
Professional time/hr*							
External Academic rate	R 480						
Commercial rate	R 963						
Deuterated solvents (750 μl. ampule)	CDC13	CD2CI2	CD3OD	DMSO-d6	D20	C6D6	Acetone-d6
	R 58	R 408	R 373	R 212	R 212	R 175	R 212
	Toluene-d8	THF-d8	TFA-d1	Ethanol-d6	Hexane-d8	DMF	CD3CN
	R 202	R 933	R 318	R 3180	R 1060	R 816	R 292
Consumables	R 66						

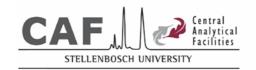
Examples of common Liquid State NMR Commercial Applications

- Biopolymers: such as PGLA, identification, monomer content and residual monomers
- Absolute Structure determination of purified organic compounds
- Speciation of Inorganic complexes
- Heparin: quality control using latest USP monograph testing for over sulphated chondroitin sulfate and other impurities
- Poloxamer: weight and % oxyethelene
- Chitosan: % deacetylation
- Silicone: polydimethylsiloxane
- Quantitative 13C NMR of polyethylene and polypropylene
- Quality control of Aloe Vera
- Polymer Tacticity
- Flavonoid identification
- Cannabis quantitative and qualitative analysis of cannabinoids





Test	Application	Monographs
	General NMR method	USP, EP 2.2.33, ASTM E386
Aloe Vera quality control	Origin of an extract and to distinguish between different plant sources	
Alginate	Chemical composition and sequential structure from 1H and 13C	ASTM F2259
Amyl Nitrite	1H Identification	USP
polypropelene, polyethylene	Quantitative 13C	
Buserelin	1H Identification	EP
Chitosan	% Deacetylation, 1H	ASTM F2260
Cod-liver Oil	13C Identification and positional Distribution (β(2)-acyl) of fatty acids	EP
Enoxaparin	13C Identification	USP
Fats and oils	1H, 13C Determination of fatty acid composition in fats and oils	~
Gadoversetamine	Hydroxypropyl Betadex	USP
Polymer tacticity	Quantitative 13C	~
Goserelin	13C Identification	EP
Heparin	1H Identification and OSCS screening	USP, EP
Olis	13C Distinction between plant and synthetic oils	
Hydroxypropyl Betadex	1H Molar Substitution	USP, EP
Lauromacrogol	13C-Average chain length of fatty alcohols and moles of ethylene oxide	EP
Medronic Acid	1H Identification and Impurity determination	EP
Orphenadrine Citrate	1H-Isomer Content	USP
Simethicone	1H- Identification	~
Oxytocin	1H-Identification	USP
Proteins, peptides	2D, 3D Structure determination from various NMR experiments	





Plant extract complexity	Diffusion separation of components in solution (DOSY)	
Poloxamer	1H-Weight % Oxyethylene	USP
Polyoxyl 10 Lleyl Ether	1H-Average polymer length	USP
Polylactide and glycolide	1H, 13C- Identification, residual monomer, lactide/glycolide ratio	ASTM F2579, F1925, F2313
Polyoxyl 20 Cetostearyl Ether	1H-Average polymer length	USP
Salmon Oil	13C-Identification and Positional Distribution ($\beta(2)$ -acyl) of fatty acids	EP

^{*} Partly produced from NMR Spectroscopy in Pharmaceutical Analysis (B. Diehl, et al., 2008) and the various available Monographs

^{**}An additional admin fee of 7% will be charged to all external clients, both Academic and Industry.

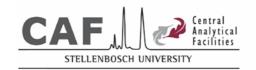
Solid State NMR Prices 2020				
Self-run prices (*)		SU academics	academics	commercial
half day (max. 4hrs)			722	1135
day (max. 24hrs)		1094	1445	2527
weekend			2725	4813
<u>week</u>		3000*	6811	12635
*	7 Days. (if more	than two days is used, t	he weekly rate applies)	





<u>er run</u>	a	cademics	commercial		
measurement time(*)	first sample	further samples	first sample	further sample	
max. 1hr run	R 601	R 385	R 1053	R 662	
max. 3hrs run	R 891	R 674	R 1565	R 1203	
max. 7hrs run	R 1143	R 914	R 1926	R 1564	
max. 24 hrs run	R 1926	R 1624	R 3370	R 2887	
includes instrument time, exp	erimental setup, sta	andard sample preparation			
analysis packages	a	cademics	comme	ercial	
	first sample	further samples	first sample	further sample	
coal characterization	R 3008	R 2166	R 5294	R 3850	
	D 20	20.1	D 240 /		
<u>sample prep fee (*)</u>	R 2:	33 / sample	R 318 / s	ample	
* only applica	ble, if sample prepa	ration is time-consuming (s	sticky or toxic samples,)	
	1	481 / hr	R 963	/h.r	

CD SPECTROMETER PRICING 2020				
Instrument access/hr.	Self -run	Submitted	Immediate Priority service	
Internal rate	R 180	R361	R481	
Academic rate	R 361	R 481	R 568	





Commercial rate	R 413	R 602	R 963
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Professional time/hr.*			or publication writing, consuty and structure excluded)
External Academic rate	R 481		
Commercial rate	R 963		
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Analytical solvents available	Methanol	Acetonitrile	
	12/ml	28/ml	
N2 gas fo	r temperature work at t	ho NMP facility are free	