

# Nuclear Magnetic Resonance Pricelist

(2020)

SELECT ONE OF THE FOLLOWING LINKS:

- Solution State NMR prices
- Solid State NMR prices
- CD spectrometer prices

Prices (In South African Rand)

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

SOLUTION STATE PRICES 2020							
Instrument access/hr	Self -run	Admin fee	Service fee/hr	Total			
Internal Standard <sup>1</sup> H spectra	R 47	R 0	R26	R73			
Internal Rate	R 140	R 0	R64	R204			
External Academic rate	R 233	7%	R292	R525			
Commercial rate	R 318	7%	R382	R700			
<b>Professional time/hr*</b>							
External Academic rate	R 466						
Commercial rate	R 933						
<b>Deuterated solvents (750 µl. ampule)</b>	<b>CDC13</b>	<b>CD2Cl2</b>	<b>CD3OD</b>	<b>DMSO-d6</b>	<b>D2O</b>	<b>C6D6</b>	<b>Acetone-d6</b>
	R 58	R 408	R 373	R 212	R 212	R 175	R 212
	<b>Toluene-d8</b>	<b>THF-d8</b>	<b>Trifluoroacetic acid-d1</b>	<b>Ethanol-d6</b>	<b>Hexane-d8</b>	<b>DMF</b>	<b>CD3CN</b>
	R 202	R 933	R 318	R 3180	R 1060	R 816	R 292
<b>Consumables</b>	R 64						

## 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 <sup>13</sup>C 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
polypropylene, polyethylene	Quantitative 13C	
Buserelin	1H Identification	EP
Chitosan	% Deacetylation, 1H	ASTM F2260
Cod-liver Oil	13C Identification and positional Distribution ( $\beta(2)$ -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
Poly lactide 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
<p>* Partly produced from NMR Spectroscopy in Pharmaceutical Analysis (B. Diehl, et al., 2008) and the various available Monographs</p> <p>**An additional admin fee of 7% will be charged to all external clients, both Academic and Industry.</p>		

## SOLID STATE NMR PRICES 2020

<b>Self-run prices (*)</b>	<b>SU academics</b>	<b>academics</b>	<b>commercial</b>
half day (max. 4 hrs)		700	1100
day (max. 24hrs)	1060	1400	2449
weekend		2640	4664
week	2120*	6600	12243

\* 7 Days. (if more than two days is used, the weekly rate applies)

### Service prices

<u>per run</u>	<b>academics</b>		<b>commercial</b>	
<u>measurement time(*)</u>	first sample	further samples	first sample	further samples
<b>max. 1hr run</b>	R 583	R 373	R 1020	R 641
<b>max. 3hrs run</b>	R 863	R 653	R 1516	R 1166
<b>max. 7hrs run</b>	R 1108	R 886	R 1866	R 1516
<b>max. 24 hrs run</b>	R 1866	R 1574	R 3265	R 2798

\* includes instrument time, experimental setup, standard sample preparation

<u>analysis packages</u>	<b>academics</b>		<b>commercial</b>	
	first sample	further samples	first sample	further samples
<b>coal characterization</b>	R 2915	R 2099	R 5130	R 3731

<b>sample prep fee (*)</b>	R 233 / sample	R 318 / sample
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\* only applicable, if sample preparation is time-consuming (sticky or toxic samples, ...)

<b>Professional time (*)</b>	R 466 / hr	R 933 /hr
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\* Costs of processing, converting to xy data, interpretation.

These costs are not charged, if the project is done as collaborative work for publication.

## CD SPECTROMETER PRICES 2020

<b>Instrument access/hr.</b>	<b>Self -run</b>	<b>Submitted</b>	<b>Immediate Priority service</b>
Internal rate	R 175	R350	R466
Academic rate	R 350	R 466	R 550
Commercial rate	R 400	R 583	R 933

*Internal pricing is available on request and put up in the CD laboratory*

<b>Professional time/hr.*</b>	*sample prep., plots, interpretation, report or publication writing, consulting (initial discussions on project feasibility and structure excluded)		
External Academic rate	R 466		
Commercial rate	R 933		

<b>Analytical solvents available</b>	<b>Methanol</b>	<b>Acetonitrile</b>
	11/ml	27/ml

**N2 gas for temperature work at the NMR facility are free**