Process NMR Associates – Price Schedule

Rates - Standard Rates are Charged for Spectrometer Time and Professional Time

Typical Turnaround Time: 1-3 Days from Receipt of Samples.
Same Day Priority Turnaround Available on Demand *

Rates Represent Those in Place on January 1, 2008 – **Company and Contact Info: See Page 3**

NMR Spectrometer Time - 1 Hour Minimum (includes spectrometer set up and routine sample prep).

- Standard Rate: $80/hr (For First 4 hours), $35/hr for additional hours over 4 hours (Overnight $500, 24 Hour Acquisitions $800).
- Priority Service*: $160/hr for immediate priority. Charge based directly on time to prepare samples, perform analysis and report.
- Process FT-NMR and Time-Domain Relaxometer Investigations: $80/hr
- Time-Domain NMR Tests: Charged on a per test basis - call for quote.
- Professional Time for Interpretation and Non-Standard NMR Related Services: $175 /hr.
  * Subject to availability - please inquire.

NMR - Individual Experiments:

- Standard ^{1}H Analysis : $45 ** (No sample minimum, No analysis/interpretation of data/assuming sample not limited (>10 mg)) Note: Sample handling charge of $10 per sample applies.
- Standard ^{13}C Analysis : $240 ** (No analysis/interpretation of data/assuming sample is not limited (>500 mg)) Note: Sample handling charge of $10 per sample applies
- Detailed ^{13}C Analysis with average molecule parameters calculated: $350 **
- Standard ^{1}H-^{13}C DEPT : $80 ** (No analysis/interpretation of data)
- Multidimensional experiments will be charged for actual spectrometer time. (Overnight Acquisitions - $500, 24 Hour Acquisitions $800).
- Multinuclear and sample-limited experiments will be performed for a length of time that is agreed upon in advance.

** Includes NMR Tube and Standard Deuterated Solvents † See Additional Charges that May be Levied Depending on Project Listed Below

Consulting and Interpretation Fees:

- Consulting fees are charged at a rate of $175/hr or $1200/day, plus usual/customary expenses.
- (Initial discussions concerning a potential project are not considered consulting time).
- Expert Witness $350/hr.
- Professional Time Associated with NMR Technical Support of Litigation $250/hr

Low Resolution (TD) NMR Service:

- T2, CPMG, Inverse Laplace Transformations, T2 Distributions, T1, T1 Distributions - $60 per sample
- Temperature Profiles - $100 Per Sample

Simulated Distillation:

- D2887 - Boiling Range Distribution of Petroleum Fractions by GC - $200 / Sample
- D3710 - Boiling Range Distribution of Gasoline and Gasoline Fractions by GC - $275 / Sample
- D5307 - Boiling Point Distribution of Crude Oil by GC - $275 / Sample
- D6352 - Boiling Range Distribution of Petroleum Distillates in Boiling Range from 174 to 700°C by GC - $275 / Sample

Other Analytical Techniques - GC, GC-MS, FT-IR

- Call for dedicated quote.

† Additional charges:

- Non-Standard Solvents: Customer will be charged at cost for solvents other than $CDCl_3$, DMSO-D_6, or D_2O.
- Sample Tubes: Customer will be charged at cost for non-standard NMR tubes.
- Sample Disposal: Customer will be charged at cost for this service. Typically $5 per sample for disposal.
- Sample Return involves transportation to, and shipment by, a Certified HazMat Shipping Company - cost charged to customer.
- Report Mailing: Customer will be charged at cost for expense of mailing reports by next-day mailing service.
- Sample Pick-Up: Samples can be picked up within a 30 mile radius of Danbury at a rate of $40/hr driving time**

* Subject to availability - please inquire

Process NMR Application Development

Process NMR Acquisition and Chemometric Modeling of Process Stream Sample Sets Available at Rates Negotiated Under an Application Development Agreement (Petrochemical, Refining, Food, Pharma Applications).

Liquid-State NMR Experiments *Varian Unity-300 Spectrometer*

- Varian 5mm 4-Nucleus Probe ($^{1}H/^{13}C/^{19}F/^{31}P$-$^{2}H$)
- Varian 5mm Broad Band Probe (^{1}H-X-^{2}H)
- Varian 10mm Broad Band Probe (^{1}H-X-^{2}H)
- Nalorac 20 mm Broad Band Probe (^{1}H-X-^{2}H)
- Variable Temperature (-100 to +150 C)
- Standard Acquisition, ^{1}H-^{1}H COSY, ^{1}H-^{13}C DEPT, ^{1}H-^{13}C HETCOR, Relaxation Studies, Multinuclear (^{27}Al, ^{17}O, ^{11}B, ^{19}F, ^{31}P, ^{23}Na, ^{2}H, ^{29}Si etc)

Solid or Liquid-State NMR Experiments *Varian UnityPlus-200 Spectrometer*

- Doty Scientific Multinuclear 7mm Supersonic Magic Angle Spinning Solids Probe
- Varian 5mm Broad Band Liquids Probe (^{1}H-X-^{2}H)
- Single Pulse Acquisition, Cross Polarization (Variable Amplitude), CP Relaxation Studies, T_1/T_2 Relaxation Studies

Process NMR Analysis (At-Line/Batch/On-Line)*Foxboro Process NMR Spectrometers (2)*

- Foxboro 57.8 MHz High-resolution "C-Type" Process FT-NMR (^{1}H NMR)
- Foxboro 58.3 MHz High-resolution "D-Type" Process FT-NMR with ambient-100^{o}C Variable Temperature Capability

Low Field NMR Analysis - "Relaxometry" (H-Content, SFC Analysis, Oil in Seeds, Oil in Water, Moisture Analysis) *SpinTrack NMR Analyzer*

- SpinTrack NMR Low Resolution NMR - Multinuclear (^{1}H, ^{19}F, ^{11}B, ^{23}Na, ^{31}P, ^{27}Al) 10 mm Probes, ^{1}H Surface Probes. Standard Methods Performed.

Gas Chromatography – Simulated Distillation and GC-Mass Spectrometry

- HP 5890 A with HP 5970 Mass Selective Detector
- HP 5890 A with FID Detector

Shimadzu GC-2010 Simulated Distillation Analyzer

Mid-FTIR-ATR - NPS *IdentifyIR-HVP*

Contact Information:

John C. Edwards, Ph.D.
Manager, Process and Analytical NMR Services
Process NMR Associates, LLC
87A Sand Pit Rd, Danbury, CT 06810, USA
Tel: +1 (203) 744-5905
Fax: +1 (203) 743-9297
e-mail: john@process-nmr.com
Web: http://www.process-nmr.com
Blog: http://www.nmrblog.com

Company Details

Established: December 1997
Principals: 2 Ph.D. Chemists with over 50 years of NMR related experience.
Services: All NMR experimentation, interpretation and reporting is performed by the two principals.
Federal Tax ID: 06-1502716
Connecticut State Commercial Recording Division ID: 0577987
Dun and Bradstreet Data Universal Numbering System (DUNS) Number: 069826803