|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sample Request Form  Copies available on the RU – NMR forum website  Please tick boxes (☑) as applicable. | | | | **User Name** | |  | |
| Date | |  | |
| Lab Number | |  | |
| Mobile / Email | |  | |
| Supervisor | |  | |
| **Supervisor’s signature** | |  | |
| **FOR OFFICE USE** | | OPERATOR SAMPLE PREP TIME \_\_\_\_\_  SAMPLE RUN TIME \_\_\_\_\_\_ | | | | | |
| **FOR OFFICE USE** | | Invoice Number IDO number | | | | | |
| **ID or PASSPORT NUMBER (*NB We need the information for NMR reporting*)** | |  | | | | | |
| Sample Name | |  | | | | | |
| **Your Sample Label** | |  | | | | | |
| Sample concentration or  Mass of Sample submitted and sample MW (Don’t guess if not known) | |  | | | | | |
| Solvent | | CDCl3 ⬜ │ d6-DMSO ⬜ │ D2O ⬜ │ MeOD ⬜ │ | | | | | |
|  | | Other :(please list the solvent here) | | | | | |
| If your sample is toxic, air-sensitive, expiry period or unstable(***clearly mark expiry period***), please mark this box and explain  Unstable ⬜ | |  | | | | | |
| Special handling (e.g. sample in the fridge) | |  | | | | | |
| Referencing (Routine = TMS unless other requested) | |  | | | | | |
| Instrument 600 |  | | Instrument 400 | |  | |

Please tick (☑) requested experiments, and give ranges if required:

|  |  |  |
| --- | --- | --- |
| *1D* | 1H ⬜ | from \_\_\_\_\_ to \_\_\_\_\_ ppm |
| 13C ⬜ | from \_\_\_\_\_ to \_\_\_\_\_ ppm |
| DEPT 135 ⬜ | from \_\_\_\_\_ to \_\_\_\_\_ ppm |
| 1D NOESY ⬜ 1D TOCSY ⬜ 1D ROESY ⬜ | Irradiate at: |
| *2D*  *(1H-1H)* | gCOSY ⬜ Phase Sensitive COSY ⬜ | from \_\_\_\_\_ to \_\_\_\_\_ ppm |
| 2D ROESY ⬜ 2D TOCSY ⬜ 2D NOESY ⬜ | from \_\_\_\_\_ to \_\_\_\_\_ ppm |
| *2D*  *(1H-13C)* | HSQC ⬜ | from \_\_\_\_\_ to \_\_\_\_\_ ppm (1H)  from \_\_\_\_\_ to \_\_\_\_\_ ppm (13C) |
|  |  |
| HMBC (Long-range 1H-13C coupling) ⬜ | from \_\_\_\_\_ to \_\_\_\_\_ ppm (1H)  from \_\_\_\_\_ to \_\_\_\_\_ ppm (13C) |
| VT required (Samples run at 25°C unless requested) Yes ⬜ (Range) \_\_\_\_\_\_\_\_\_\_\_ | | |

Please use the reverse side for any specific instructions such as expansions and data processing.

|  |
| --- |
| Samples are run on a first-come-first served basis unless urgent:  Please Tick One  Normal Run ⬜  Urgent Run ⬜ Specific Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Other remarks (e.g. special sample preparation or expansions or processing requests):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Note Data Processing may carry an additional charge – please check with the NMR personnel if unsure).  NOTE Samples submitted in broken or short NMR tubes WILL NOT BE PROCESSED.  All samples will be disposed of if not collected within a week after the NMR experiment. Other samples may be stored in the fridge prior to analysis. |
| Other non-routine requests (other nuclei, etc) – time will be calculated before proceeding. |
| Other notes |

NMR Facility use only

**NOTES:** (As of March 2021)

1. **Costs**

For submitted samples we have three costs:

1. **Operator Fee** – R100 per sample (for submitted samples run under normal conditions and includes simple sample preparation.
2. **Solvents**

Stocks of some common deuterated solvents are kept in the Department and approximately 1 mL is used for each sample. We typically use at least a 99.96% deuterated solvent with TMS where appropriate as a reference. Typical solvent costs are listed below. You are welcome to send your own solvents. These are available in 1mL ampules from Sigma etc.

1. **Instrument time**

Client samples are typically run on our 400MHz NMR, or 600 MHz by request, and we charge a per-hour fee up to a maximum fee for overnight runs, and another for 24 hour runs.

Time required is dependent on the sample, concentration, and purity, but the Table 2, below gives some idea of the time usually required.

**Table 1** Common Deuterated solvents and charges

|  |  |
| --- | --- |
| **Solvent** | **Cost** |
| CDCl3 | R80 |
| CD3OD | R350 |
| CD3OH | R500 |
| DMSO-d6 | R300 |
| D2O | R180 |
| Acetone-d6 | R225 |
| Toluene-d8 | R300 |
|  |  |
| Ethanol-d | R120 |
| Acetonitrile | R1270 |

**Table 2:** Typical NMR instrument times

|  |  |  |  |
| --- | --- | --- | --- |
| **Experiment** | **Typical Time** | **400MHz cost** | **600MHz cost** |
| 1H NMR | 2 min | R50 | R100 |
| 13C NMR | 30 min | R100 | R360 |
| DEPT | 15 min | R80 | R180 |
| **Typical (1H, 13C, DEPT, and 2D HSQC, HMBC)** | **3 hours** | **R600** | **R1500** |
| HSQC/HMBC | 60 min | R200 | R600 |
| HSQC/HMBC | 2-3 hours | R600 | R1700 |
| Overnight | 12 hours | R2000 | R5000 |
| Per 24h block experiment | 24 hours | R3600 | R7000 |

NB: Instrument times refer to acquisition time exclusively and doesn’t contain locking, shimming, tuning/matching, etc. time.

The price for urgent run is not included in this table and will be agreed before the runs.

**SOLID STATE NMR**

These are run approximately once a month on a 400 MHz instrument equipped with Magic Angle spinning and a Broad-Band probe (to perform CP MAS experiments. The average rate of R500 per hour is applied.

Samples for solid-state analysis are loaded into a 4 mm rotor and may require more sample or some preparation, which is included in the above charge.

These rates can be reduced for collaborating institutions.

Private Sector surcharge of R1000 per hour applies.