

NMR USER APPLICATION

| NMR | | Chemistry user | | UM User | Outside user |
|--------------------|--------|-----------------|---------------------|---------------------|---------------------|
| Type of user | | Registered user | Non-registered user | Non-registered user | Non-registered user |
| AVANCE III 400 MHz | | Form B | Form A | Form C | Form C |
| ECX 400 MHz | | Form B | Form A | Form C | Form C |
| AVANCE III 600 MHz | | Form B | Form A | Form C | Form C |
| ECX 500 MHz | Liquid | | Form A | Form C | Form C |
| | Solid | | Form D | Form D | Form E |

FT-NMR SPECTROSCOPY SERVICES PAYMENT RATE

| NMR | | Chemistry user | | | | UM User | | Outside user | | |
|--------------------|--------|--|--|-------------------------------|------------|-------------------------------|-------------|-------------------------------|--------------------------|--------------------------|
| Type of user | | Registered user | | Non-registered user | | Non-registered user | | Non-registered user | | |
| AVANCE III 400 MHz | | RM 2,000.00 for 1 year, 25 hours per month RM 3,500.00 for 2 years, 25 hours per month RM 5,500.00 for 3 years, 25 hours per month | | Refer to Table A ¹ | | Refer to Table A ¹ | | Refer to Table C ¹ | | |
| ECX 400 MHz | | | | | | | | | | |
| AVANCE III 600 MHz | | RM 2,500.00 for 1 year or 300 hours or whichever comes first RM 4,500.00 for 2 years or 600 hours or whichever comes first RM 7,000.00 for 3 years or 900 hours or whichever comes first | | Refer to Table B ¹ | | Refer to Table B ¹ | | Refer to Table D ¹ | | |
| ECX 500 MHz | Liquid | - | | Refer to Table A ¹ | | Refer to Table A ¹ | | Refer to Table C ¹ | | |
| | Solid | - | | First one hour | RM 150 | First one hour | RM 200 | First one hour | RM 250 ^a | RM 300 ^b |
| | | | | Subsequent hour | RM 80/hour | Subsequent hour | RM 100/hour | Subsequent hour | RM 100/hour ^a | RM 150/hour ^b |

¹ Based on duration of experiment per sample basis, ^a University & government agency, ^b Industry

Table A: non-registered University of Malaya user for 400 MHz

| Experiments Duration | 1D $^1\text{H}/^{19}\text{F}/^{31}\text{P}$ (RM) | 1D $^{13}\text{C}/^{119}\text{Sn}$ (RM) | 2D-FG (H-H COSY, H-C HMQC, H-C HMBC, HSQC) (RM) | 2D-Noesy (RM) |
|--|---|---|---|------------------|
| ≤ 10 min | 20.00 | | - | - |
| ≤ 30 min | 40.00 | 50.00 | 70.00 | - |
| $30 \text{ min} < x \leq 1 \text{ hour}$ | *60.00 | 70.00 | 90.00 | 120.00 |
| > 1 hour | *120.00/hour | 60.00/hour | 80.00/hour | 90.00/hour |
| Overnight | - | 400.00/8 hours | 500.00/8 hours | 600.00/8 hours |

*Experiment : ^1H observation, e.g., 1D NOE, pre saturation
: ^{31}P Observation

Note: Time of experiment not more than **2 hours**

| Sample preparation RM 70.00 per sample | | | | | |
|---|-----------------------------------|--|--|--------------------------------------|-----------------------------------|
| Solvent usage : | CDCl_3 | CD_3OD | D_2O | $\text{DMSO}(d_6)$ | Acetone (d_6) |
| Price : | RM 50.00 | RM 60.00 | RM 55.00 | RM 70.00 | RM 70.00 |

Table C: non-registered external user for 400 MHz

| Experiments Duration | 1D $^1\text{H}/^{19}\text{F}/^{31}\text{P}$ (RM) | | 1D $^{13}\text{C}/^{119}\text{Sn}$ (RM) | | 2D-FG (H-H COSY, H-C HMQC, H-C HMBC, HSQC) (RM) | | 2D-Noesy (RM) | |
|--|---|---------|---|--------------------|--|--------------------|--------------------|---------------------|
| | Government | Private | Government | Private | Government | Private | Government | Private |
| ≤ 10 min | 60.00 | 75.00 | - | - | - | - | - | - |
| ≤ 30 min | 80.00 | 100.00 | 80.00 | 100.00 | 120.00 | 150.00 | - | - |
| $30 \text{ min} < x \leq 1 \text{ hour}$ | *120.00 | 150.00 | 120.00 | 150.00 | 150.00 | 190.00 | 200.00 | 250.00 |
| > 1 hour | *150.00 | 190.00 | 80.00/ hour | 100/hour | 100.00/hour | 125.00/hour | 120/hour | 150.00/hour |
| Overnight | - | - | 600.00/ 8 hours | 750.00/ 8 hours | 700.00/ 8 hours | 875.00/ 8 hours | 800.00/ 8 hours | 1000.00/ 8 hours |

*Experiment : ^1H observation, e.g., 1D NOE, pre saturation
: ^{31}P Observation

Note: Time of experiment not more than **2 hours**

| Sample preparation RM 70.00 per sample | | | | | |
|---|-----------------------------------|--|--|--------------------------------------|-----------------------------------|
| Solvent usage : | CDCl_3 | CD_3OD | D_2O | $\text{DMSO}(d_6)$ | Acetone (d_6) |
| Price : | RM 50.00 | RM 60.00 | RM 55.00 | RM 70.00 | RM 70.00 |

Table B: non-registered University of Malaya user for 600 MHz

| Experiments Duration | 1D $^1\text{H}/^{19}\text{F}/^{31}\text{P}$ (RM) | 1D $^{13}\text{C}/^{119}\text{Sn}$ (RM) | 2D-FG (H-H COSY, H-C HMQC, H-C HMBC, HSQC) (RM) | 2D-Noesy (RM) |
|--|---|---|---|----------------------|
| ≤ 10 min | 35.00 | | - | - |
| ≤ 30 min | 52.00 | 65.00 | 90.00 | - |
| $30 \text{ min} < x \leq 1 \text{ hour}$ | *78.00 | 90.00 | 117.00 | 150.00 |
| > 1 hour | *120.00 | 78.00/hour | 104.00/hour | 115.00/hour |
| Overnight | - | 520.00/8 hours | 650.00/8 hours | 750.00/8 hours |

*Experiment : ^1H observation, e.g., 1D NOE, pre saturation
: ^{31}P Observation

Note: Time of experiment not more than **2 hours**

| Sample preparation RM 70.00 per sample | | | | | |
|---|-----------------------------------|--|--|--------------------------------------|-----------------------------------|
| Solvent usage : | CDCl_3 | CD_3OD | D_2O | $\text{DMSO}(d_6)$ | Acetone (d_6) |
| Price : | RM 50.00 | RM 60.00 | RM 55.00 | RM 70.00 | RM 70.00 |

Table D: non-registered external user for 600 MHz

| Experiments Duration | 1D $^1\text{H}/^{19}\text{F}/^{31}\text{P}$ (RM) | | 1D $^{13}\text{C}/^{119}\text{Sn}$ (RM) | | 2D-FG (H-H COSY, H-C HMQC, H-C HMBC, HSQC) (RM) | | 2D-Noesy (RM) | |
|--|---|---------|---|--------------------|--|---------------------|----------------------|---------------------|
| | Government | Private | Government | Private | Government | Private | Government | Private |
| ≤ 10 min | 80.00 | 100.00 | - | - | - | - | - | - |
| ≤ 30 min | 100.00 | 125.00 | 110.00 | 140.00 | 150.00 | 188.00 | - | - |
| $30 \text{ min} < x \leq 1 \text{ hour}$ | *160.00 | *200.00 | 150.00 | 190.00 | 210.00 | 263.00 | 280.00 | 350.00 |
| > 1 hour | *200.00 | *250.00 | 110.00/ hour | 140/hour | 140.00/hour | 175.00/hour | 170/hour | 213.00/hour |
| Overnight | - | - | 720.00/ 8 hours | 900.00/ 8 hours | 1100.00/ 8 hours | 1375.00/ 8 hours | 1300.00 / 8 hours | 1625.00/ 8 hours |

*Experiment : ^1H observation, e.g., 1D NOE, pre saturation
: ^{31}P Observation

Note: Time of experiment not more than **2 hours**

| Sample preparation RM 70.00 per sample | | | | | |
|---|-----------------------------------|--|--|--------------------------------------|-----------------------------------|
| Solvent usage : | CDCl_3 | CD_3OD | D_2O | $\text{DMSO}(d_6)$ | Acetone (d_6) |
| Price : | RM 50.00 | RM 60.00 | RM 55.00 | RM 70.00 | RM 70.00 |

TERMS AND CONDITIONS

| Registration | Training | Booking & Canceling | Operating |
|--|--|--|--|
| <ol style="list-style-type: none"> 1. Registration for FT-NMR can be done throughout the year. 2. Research Assistant is required to create ummail account 3. For NMR 600 MHz application, if the 300 hours allocation usage time is used up already, user must renew their application. 4. Either 400 MHz and 600 MHz, if there are balance upon term expired, the balance cannot be carry forward to the next registration. | <ol style="list-style-type: none"> 5. Users are allowed to operate the machine without supervision after attending the training session and get the thumbprint from the respective Science Officer except for 600 MHz | <ol style="list-style-type: none"> 6. Slot reservation can be made by online on the weekly basis and one week in advance, 7. To book, please login to ibs.um.edu.my 8. Slot cancellation can be done more than 72 hours from the time of booking. If the cancellation is done less than 72 hours, a penalty will be given. E.g. 2 hours booking slot on January was cancelled less than 72 hours, as the penalty, the total usage for February will be deducted to 23 hours. 9. No replacement slot will be given if there is an occurrence of power failure, faulty machine or maintenance of the machine 10. For 600 MHz, user are required to fill in google format https://forms.gle/vob9JR9NtPaJSsKH6 and submit the sample to AVANCE III lab together with 1H spectra; and FT-NMR 600 MHz sample submission form | <ol style="list-style-type: none"> 11. Please write down your name in the logbook after using the machine. 12. Paper for printing is not provided. Kindly bring your own paper. 13. Running outsiders' sample is strictly prohibited. If you are caught of doing so, your registration will be terminated immediately. 14. For non-registered user the expected period of completion of the analysis work is 1 - 2 weeks after the receipt of the completed form and sample subjected to the availability of slot and the availability of the equipment. |