

## Customer Information

|                                     |  |
|-------------------------------------|--|
| <b>Customer Name</b>                | Sai Sankar Gupta, K.B.                 |
| <b>Operator Name</b>                | Sai Sankar Gupta, K.B.                 |
| <b>Company</b>                      | University of Leiden                   |
| <b>Address</b>                      | Wassenaarseweg 76                      |
| <b>Postal Code / City / Country</b> | 2333 AL Leiden, Netherlands            |
| <b>Phone Contact Customer</b>       | 0031715274638                          |
| <b>Fax</b>                          |  |
| <b>E-Mail</b>                       | k.b.sai.sankar.gupta@lic.leidenuniv.nl |

## Bruker Information

|                               |          |
|-------------------------------|----------|
| <b>Office</b>                 | GSEC     |
| <b>Engineer</b>               | Narendra |
| <b>Service Contract No.</b>   |          |
| <b>SAP Service Ticket No.</b> |          |

## Probe Information

|                     |                            |
|---------------------|----------------------------|
| <b>Order No.</b>    |                            |
| <b>Contract No.</b> |                            |
| <b>Description</b>  | PH MAS DVT 750W4 BL4 X/Y/H |
| <b>P/N</b>          | H8780                      |
| <b>S/N</b>          | 0007                       |

## Installation Summary

## Approval

|              |                             |              |                             |
|--------------|-----------------------------|--------------|-----------------------------|
| <b>Place</b> | 2333 AL Leiden, Netherlands | <b>Place</b> | 2333 AL Leiden, Netherlands |
| <b>Date</b>  | July 13, 2023               | <b>Date</b>  | July 13, 2023               |

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Sai Sankar Gupta, K.B.  
Customer representative signature

\_\_\_\_\_  
Narendra  
Bruker representative signature

## Spectrometer Information

|                 |                          |
|-----------------|--------------------------|
| Order No.       | 442759                   |
| System          | Avance Neo 750           |
| Location        |                          |
| TopSpin Version | TopSpin 4.1.3 - Build 17 |

## NMR Probe

| Description                | Probe ID   | Inspection Lot | Status |
|----------------------------|------------|----------------|--------|
| PH MAS DVT 750W4 BL4 X/Y/H | H8780_0007 | 2023-07-13     | pass   |

Copies of all spectra (default and additional) are included in customer's PDF report.

## General Test Information

### Summary of Inspection Lot

| Description                | Probe ID   | Inspection Lot |
|----------------------------|------------|----------------|
| PH MAS DVT 750W4 BL4 X/Y/H | H8780_0007 | 2023-07-13     |

### Experiments Measured

| Sample  | Experiment  | Status |
|---------|---|--------|
| Z151220 | Magic Angle setting, MAS (NPT_79Br_MAS_magicAngle)                  | pass   |
| Z151220 | Maximum spin rate testing, MAS (NPT_79Br_MAS_maxSpinRate)           | pass   |
| Z151220 | Optimization of 79Br frequency (NPT_79Br_MAS_fieldsetting)          | pass   |
| Z151220 | P90 79Br pulse calibration, MAS (NPT_79Br_MAS_p90det_79br)          | pass   |
| Z151221 | P90 13C pulse calibration, MAS (NPT_13C_MAS_p90det_13c)             | pass   |
| Z151222 | CP 1H-13C sensitivity, MAS (NPT_13C_MAS_sino_cp1h_13c)              | pass   |
| Z151222 | CP 1H-15N sensitivity, MAS (NPT_15N_MAS_sino_cp1h_15n)              | pass   |
| Z151221 | 13C sensitivity, MAS (NPT_13C_MAS_sino_13c)                         | pass   |
| Z151221 | 1H sensitivity, MAS (NPT_1H_MAS_sino_1h)                            | pass   |
| Z151223 | CP 1H-13C parameter optimization, MAS (NPT_13C_MAS_paropt_cp1h_13c) | pass   |

## Achieved Specifications

### Pulse Width

| Nucleus | Sample  |       | 90° Pulse     |           | Power Limit [W] | Method | Status |
|---------|---------|-------|---------------|-----------|-----------------|--------|--------|
|         |         |       | Duration [μs] | Power [W] |                 |        |        |
| 13C     | Z151221 | spec. | -             | -         | 200             | direct | pass   |
|         |         | ach.  | 3.69          | 186.1     |                 |        |        |
| 79Br    | Z151220 | spec. | -             | -         | 250             | direct | pass   |
|         |         | ach.  | 4.01          | 174.0     |                 |        |        |

**Sensitivity**

| Nucleus         | Sample  |       | S/N   | Remarks   | Status |
|-----------------|---------|-------|-------|---|--------|
| <sup>13</sup> C | Z151222 | spec. | -     | sensitivity of <sup>1</sup> H- <sup>13</sup> C cross-polarization | pass   |
|                 |         | ach.  | 601.2 |   |        |
| <sup>15</sup> N | Z151222 | spec. | -     | sensitivity of <sup>1</sup> H- <sup>15</sup> N cross-polarization | pass   |
|                 |         | ach.  | 61.7  |   |        |

**Sensitivity with NS**

| Nucleus         | Sample  |       | S/N     | FWHM [Hz] | NS | Remarks   | Status |
|-----------------|---------|-------|---------|-----------|----|---|--------|
| <sup>1</sup> H  | Z151221 | spec. | -       | -         | -  | noise: 20 ppm<br>variable, method: sino<br>best | pass   |
|                 |         | ach.  | 21605.3 | 354.3     | 1  |   |        |
| <sup>13</sup> C | Z151221 | spec. | -       | -         | -  | noise: 20 ppm<br>variable, method: sino<br>best | pass   |
|                 |         | ach.  | 172.4   | 1.4       | 1  |   |        |

**Samples used for Inspection Lot**

| Sample  | Description   |
|---------|---|
| Z151220 | Potassium Bromide (KBr, 80 ul)                            |
| Z151221 | Adamantane (50 ul)  |
| Z151222 | Alpha-glycine (50 ul)                                     |
| Z151223 | 2- <sup>13</sup> C, <sup>15</sup> N alpha-glycine (50 ul) |

**Remarks / Exclusions**