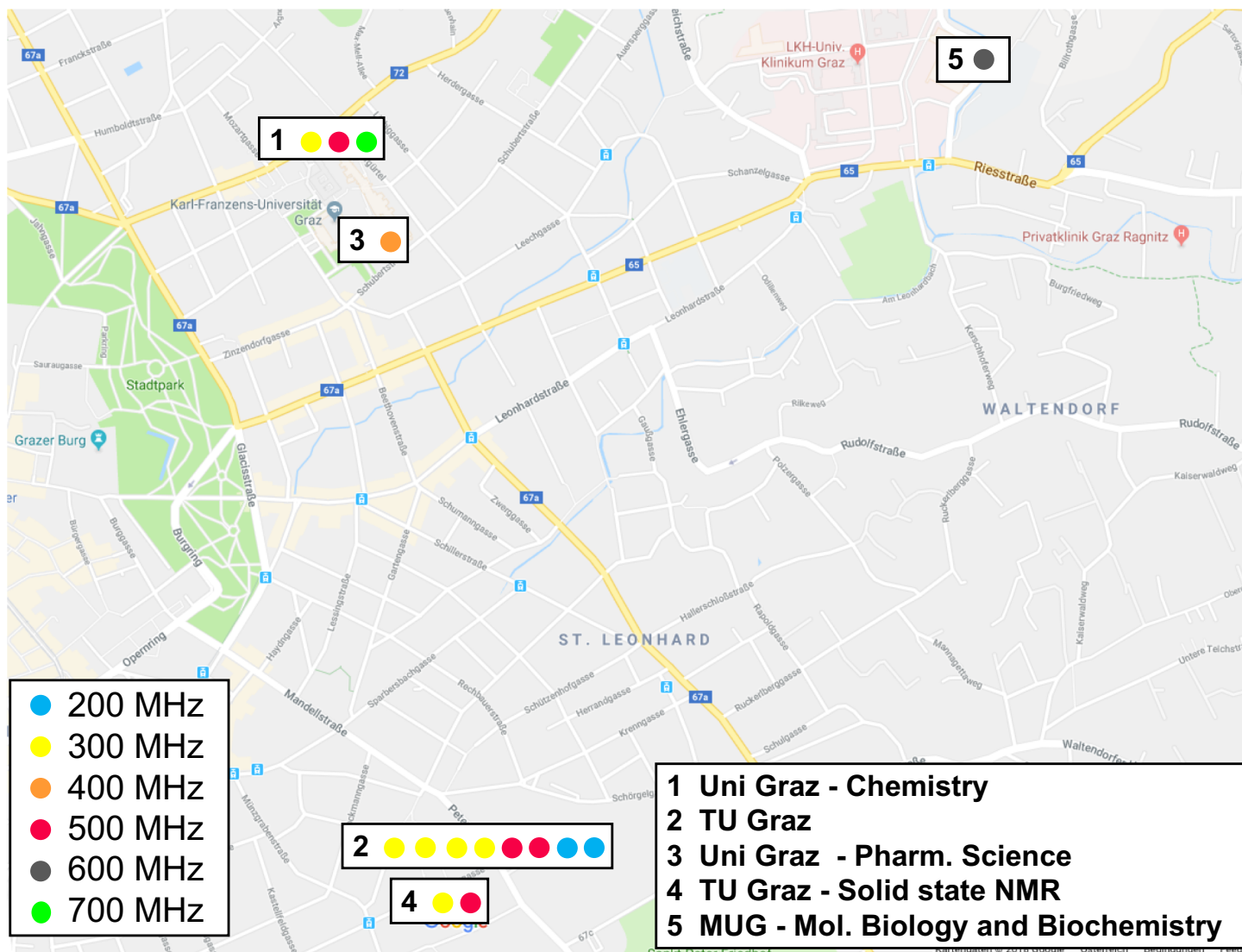


NMR in Graz

as of January 24th, 2018

NMR in Graz - Locations



Uni Graz – Institute of Chemistry

Location

Karl-Franzens-Universität Graz, IfC
Heinrichstraße 28, 8010 Graz

Contact

Ao.Univ.Prof. Dr. Klaus Zangger and
Ing. Bernd Werner
Heinrichstraße 28, 8010 Graz
Phone: +43 316 380 8673
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Applications

Routine NMR small molecule measurements, bioorganic and inorganic chemistry research, structure and dynamics of natural products, proteins and nucleic acids, structural biology in solution.

Equipment

300 MHz Bruker Avance III

Autosampler, duo-channel with gradient, direct detection broadband (5mm); VT

500 MHz Bruker Avance III

Triple channel (H, C, X) with gradients (5mm); VT

700 MHz Bruker Ascend Avance III

Cryoprobe and triple channel (H,C,N) probe with z-gradients (5mm); variable temperature

TU Graz - Chemistry

Location

TU Graz
Stremayrgasse 9, 8010 Graz

Contact

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Dr. Petra Kaschnitz
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Assoc. Prof. Dr. Roland Fischer
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Email: roland.fischer@tugraz.at

Applications

Synthetic organic and inorganic compounds analysis;
biocatalytic transformations; polymer analysis

Equipment

300MHz Bruker Avance III
Autosampler; ¹H, ¹³C (5mm direct detection)

300MHz Varian INOVA (Magnet: Bruker Widebore)
Duo-channel with gradient, direct detection broadband
probehead (5mm; 10mm ²⁹Si); VT

300MHz Varian Mercury
Duo-channel with gradient, direct broadband (5mm); VT

500MHz Varian INOVA
Duo-channel with gradient, direct & indirect detection
broadband probeheads (5mm), direct detection broadband
probehead (10mm); VT

Uni Graz – Institute of Pharmaceutical Sciences (IPW)

Location

Karl-Franzens-Universität Graz,
Pharmaceutical Chemistry
Universitätsplatz 1, 8010 Graz
and
Heinrichstraße 28, 8010 Graz

Equipment

400 MHz Varian

Dual channel (H, X) with z-gradients (5 mm);

Contacts

Ass. Prof. Dr. Olaf Kunert
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Applications

Natural product and synthetic organic compounds analysis

TU Graz – Solid state NMR

Location

TU Graz
Stremayrgasse 9, 8010 Graz

Contact

Dr. Ilie Hanzu
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Applications

Mainly used for Li-MAS-NMR, Relaxometry, stimulated echo NMR for the measurement of Li dynamics in the solid state.

Equipment

300 MHz Bruker Avance III

ULTRASHIELD WB Cryomagnet

Solid-state-NMR with 3 static probes *single-resonance* (only X-channel). Frequency- and temperature ranges: Cryo (optimized for ${}^6\text{Li}$ / -269°C up to rt), teflon (27 – 245 MHz / -150°C bis $+180^\circ\text{C}$) and ceramics (22 – 209 MHz / -150°C bis $+300^\circ\text{C}$) additionally there is a 2.5 mm CP-MAS probe (28 – 312 MHz / -5°C to $+60^\circ\text{C}$) available

500 MHz Bruker Avance III

ULTRASHIELD PLUS WB (wide bore) Cryomagnet

Solid-state-NMR with 3 CP-MAS-probes (4.0 mm rotor with ca. 80 μL volume for rotationsfrequencies up to 15 kHz / 2.5 mm ca. 30 μL up to 30 kHz / 1.3 mm ca. 5 μL up to 60 kHz). All 3 probes have two channels (${}^1\text{H}/{}^{19}\text{F}$ and X). The X-channels offer a frequency range from 33 MHz up to 206 MHz. Temperature range: -5°C to $+60^\circ\text{C}$.

Two static probes (add-on for 300 MHz) with an X-channel extend the frequency range to 22 MHz – 245 MHz and the temperature range to -150°C to $+300^\circ\text{C}$.

TU Graz - Institute of Physical and Theoretical Chemistry (IPTC)

Location

TU Graz
Stremayrgasse 9, 8010 Graz

Contact

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Applications

Photochemistry of small organic molecules
Free radical chemistry, free radical polymerization

Equipment

200MHz Bruker Avance WB

Photo-CIDNP ^1H , ^{13}C , ^{31}P
BBO Z-gradient
Photo-CIDNP CP/MAS (4 mm optically transparent rotor)

Coupled with NdYAG laser (20Hz, 190 mJ, 355 nm)

200MHz Bruker Avance WB

Photo-CIDNP ^1H , ^{19}F

Coupled with High Pressure HgXe lamp (flash length 300ms)

MUG- Gottfried Schatz Research Center for Cell Signaling, Metabolism and Aging



BioTechMed[®]
GRAZ

Location

Medical University of Graz
Neue Stiftingtalstrasse 6, 8010 Graz

Contact

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Univ.Prof. Dr. Peter Macheroux (HRSM project partner TUG;
from 01/18)
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Email: peter.macheroux@tugraz.at

Applications

Metabolomics, drug development and screening,
integrative structural biology, method development

Equipment

600 MHz Bruker Avance Neo

UltraShield Plus™ superconducting magnet system
Dual channel BBI probehead (H, X) with gradients & ATMA (5mm)
Triple channel TXI probehead (H, C, N) with gradients & ATMA (5mm)
Variable temperature control unit
Autosampler for up to 500 samples, temperature controlled
Sample preparation robot (Andrew 1000P)

Funding:

2016 HRSM Project iMRC „Integrative Metabolism
Research Center“ BioTechMed-Graz