Nuclear Magnetic Resonance Core Facility at the Tampa Bay Technology Incubator

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NMR Core Highlights

- Oxford actively shielded superconducting cryomagnet
  9.4 Tesla ($^1$H = 400 MHz)
  54 mm bore, 5 mm sample tubes

- Varian VNMRS direct drive console

- Broadband Observe probe

Instrument was purchased by Hillsborough County in September 2006

Instrument installation complete February 2007
Instrument Capabilities

• one dimensional experiments i.e. $^1$H, $^{13}$C, $^{19}$F, $^{31}$P...

• two dimensional homonuclear and heteronuclear experiments i.e. COSY, HETCOR, HMQC, HMBC...

• Relaxation experiments i.e. $T_1, T_2$...

Note - the instrument does not have gradient or variable temperature capabilities
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Tampa Bay Technology Incubator Shared Lab Facilities

Shared laboratory facilities provide technology businesses with access to critical research equipment that would otherwise be cost-prohibitive to most start-up companies.

NMR Sample Submission Form
DSC Sample Submission Form
HPLC Sample Submission Form
Sample Submission Form

Name:______________________________________________________________

Company:____________________________________________________________

Phone:________________________________________________________________

E-mail:________________________________________________________________

I am providing the following sample for analysis in a 400+ MHz NMR tube. Samples should be labeled and left in the sample submission rack (inside the shared chemical handling facility). Samples and results will be returned within 48 hours of submission.

Sample ID:___________________________

Observe Nuclei:  $^1$H $^{13}$C $^{31}$P $^{19}$F

Solvent:  CDCl$_3$ DMSO-d$_6$ Acetone-d$_6$ D$_2$O Other $^\square$ ___________________

Approximate concentration (mg/mL): __________

Material Preparation Site: ________________________________________________

Other instructions: _______________________________________________________

By submitting this sample for analysis, I confirm that this material was prepared within the Tampa Bay Technology Incubator. No warranty or guarantee is made regarding results, sample return, or data retrieval.

____________________________________
Signature
Considerations for Sample Submission

• Be sure to use a 400+ MHz NMR tube
• Use 0.6 mL to 1 mL of solvent
• CDCl₃, DMSO-d₆, and D₂O are preferred NMR solvents
• Fill out the sample submission form for each sample
Software and Data

- Data is acquired on Varian’s VNMRJ 2.2C software
- Raw data is stored as .fid file
- Hardcopy of results will be returned with NMR sample
- Data can be e-mailed and opened with Acorn lab’s NUTS program
KS-3-37
His(Z) NCA after 2nd ppt
Suggestions are welcome to make the core facility more user friendly...