


To: All Facility Users

From: John Harwood (jharwood@purdue.edu)



Date: November 28, 2007

Subject: New Bruker AV-800 (LB124 BRWN) Now Available

It gives me great pleasure to inform you that our new Bruker AV-800 NMR spectrometer is now available for use. This brand-new spectrometer is fully state-of-the-art, and is configured for bio-nmr applications. It is equipped with a 5mm TXI Z-gradient probe optimized for ^1H detection with ^{13}C , ^{15}N and ^2H decoupling. In addition, this spectrometer is equipped with sample temperature control with sample cooling unit, automated gradient shimming and automatic probe tuning. I am happy to report that the installation of this spectrometer proceeded without a hitch and that it easily met all of its design specifications. I would like to gratefully acknowledge the contributions of many people to this effort, in particular Professors Zwier and Raftery, Donna Bertram, Jerry Hirschinger and Darrel Dirksen; Victor Pytlewski, Razvan Teodorescu, Peter Rimmelspacher, Norbert Koneiczny and Bill Bartsch (Bruker Instruments); Paul Bridegroom and crew (Cardinal Contracting); Kathy Hartness and crew (Electric Metal Fab, Inc.); Mike Montana and Brian Legg (Praxair, Inc.). If you would like to see some pictures of this spectrometer and its installation, take a look at our website: <http://www.pinmrf.purdue.edu/800blog.shtml>.

For those of you who might be interested, here is a comparison of ^1H and ^{13}C sensitivity for the AV-800 compared with our Facility's other high-field spectrometers.

<u>Console/Probe</u>	<u>^1H sensitivity</u>	<u>^{13}C sensitivity</u>
AV-III-800, TXI probe	2000:1	240:1*
Inova-600, HCN probe	1000:1	100:1*
DRX-500-1, TXI Cryoprobe	3800:1	200:1*
DRX-500-2, TXI probe	800:1	90:1*
DRX-500-2, BBO probe	350:1	300:1

*These probes will show a background signal or rolling baseline when used for ^{13}C acquisition.

The AV-800 is equipped with a PC running Linux, and uses Bruker's new TopSpin software for data acquisition and processing. This software is similar to the older Bruker software but does have some significant operational differences. Therefore, all current Bruker users will be required to attend an overview session on the AV-800 prior to being given access to this spectrometer. It will be advantageous to schedule these overview sessions in a group-wise fashion. Please contact Donna Bertram (dbertram@purdue.edu, 4-7850) if you need access to the AV-800. Facility users who are not Bruker trained will need to complete Bruker training before requesting an AV-800 overview session.

If you have any comments, please feel free to contact me.

cc: Department Heads
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NMR Support Staff
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