

Remote Display: Configuring a Mac Computer Running OS >10.3 to Display VNMRJ through the Network.

This installation/configuration should allow remote use of VNMR through Apple's **X11** application. Before any configuration attempts, make sure that the application:

`/Applications/Utilities/X11`

has been installed on your Mac. If it has not been installed on your system, you will need to install the package:

`X11User.pkg`

from your MacOSX installation CDs or DVD before going any further.

Configuration for Remote Sessions.

1. Open a terminal window and type:

echo \$SHELL

the computer will return one the following statements as output:

```
/bin/bash  
/bin/csh  
/bin/tcsh
```

2a. If the shell that you are using is **/bin/bash** (this is often the default shell in OSX) enter the following on the terminal command line:

pico .bashrc

on the terminal window command line and then hit enter. The text editor pico will open. Please note that any other text editor will work. Create a shortcut to open a remote session to the NMR data station *d601* by entering the following line within the `.bashrc` file:

```
alias xxxnmr= 'ssh -YC xxxnmr@yyy.chem.ualberta.ca'
```

where **xxxnmr** is your group's login name for the NMR spectrometers and data stations (e.g. `gennmr` for the `gennmr` user account) and **yyy** is the name of the computer indicated by the NMR staff to use for remote access. Ensure that the above statement is entered as only one line within the `.bashrc` file, and not more than one line. Press the key combination **ctrl-x** then answer **y** to accept the changes and finally hit **enter** to write the changes. Restart the shell by typing:

bash

on the terminal command line.

2b. If the shell that you are using is **/bin/csh** or **/bin/tcsh** enter the following on the terminal command line:

pico .cshrc

and then hit enter. Create a shortcut to open a remote session to the NMR data station *d601* by entering the following line within the `.cshrc` file:

```
alias xxxnmr 'ssh -YC xxxnmr@yyy.chem.ualberta.ca'
```

where **xxxnmr** is your group's login name for the NMR spectrometers and data stations (e.g. `gennmr` for the `gennmr` user account) and **yyy** is the name of the computer indicated by the NMR staff to use for remote access. Ensure that the above statement is entered as only one line within the `.cshrc` file, and not more than one line. Press the key combination **ctrl-x** then answer **y** to accept the changes and finally hit **enter** to write the changes. Restart the shell by typing:

tcsh

on the terminal command line or

csh

on the terminal command line.

3. Start X11, when X11 opens it should appear full screen, if not, you should change the preferences of X11. Under the file menu of X11 select Preferences, then select the output tab and ensure that the box that reads Full Screen mode is checked. You can now quit X11. Remember the key combination option-apple-a will return you back to your regular desktop. Open a terminal window and enter the following on the command line:

```
defaults write com.apple.x11 wm_click_through -bool true
```

hit enter and then quit the terminal. You may need administrator privileges to make the above change.

4. Now you can open X11 and you should be able to follow the directions located in the "Remote_Display_of_NMR_Data_on_a_Mac" document.

Remote Display: NMR Processing on a Mac Computer Running OS >10.3.

1. Start the application **X11**. This will launch the X11 window server; this window server is what is required to display VNMR on your Mac. To switch back to Aqua, the native Mac window server, use the key combination: **option-apple-a**.

2. Open a terminal window if one was not automatically started when the X11 window server was started. The terminal window can be opened from the applications menu in X11.

3. Once the terminal window appears, type **xxxnmr** on the terminal command line, to log into the computer yyy (the computer indicated by the NMR staff for remote access use) and use VNMRJ, where xxx is your group prefix, i.e. gen for gennmr, etc. e.g.

```
[mymac: ~]$ macuser% gennmr
```

4. You will be prompted for your password:

```
gennmr@yyy's password:
```

Enter your password preceded by the appropriate prefix for the computer **yyy**.

5. To start VNMRJ type:

```
vnmrj
```

on the command line or

```
vn
```

and then enter, VNMRJ will appear on your desktop.

Note: right click = option-click
middle click =
apple-click

6. When you are finished using VNMRJ, type **exit** on the VNMRJ command line, then on the terminal command line enter **exit** to quit the remote session, i.e.

```
yyy{xxxnmr} 2> exit
```

Alternatively, you can press the key combination **ctrl-d** from within the same window that you had typed xxxnmr to quit the remote session. Note: the mouse cursor must be in/on the terminal window for this method to work.

7. Finally quit X11 by selecting X11 on the dock and choosing quit.

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