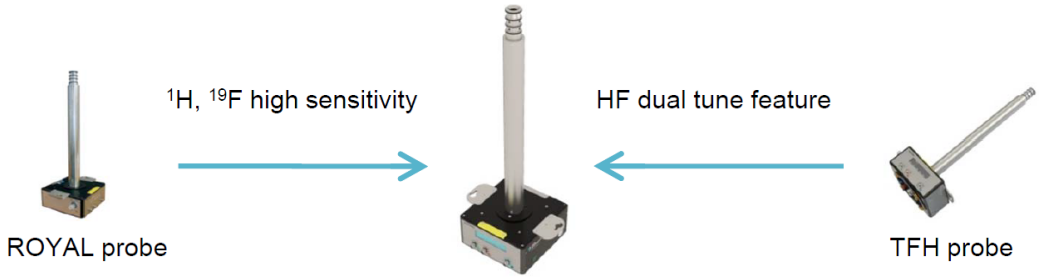
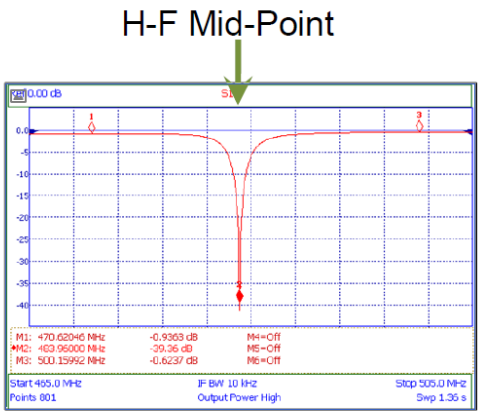
JEOL ROYAL HFX Probe

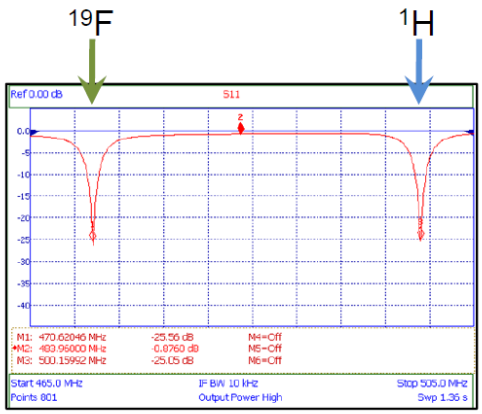
The JEOL ROYAL HFX NMR probe is the world's first liquid NMR probe switchable between single tune and dual tune mode on the High Frequency coil without compromising the NMR performance. The ROYAL HFX probe operating in single tune mode has the same sensitivity and pulse width performance as the standard ROYAL NMR probe.



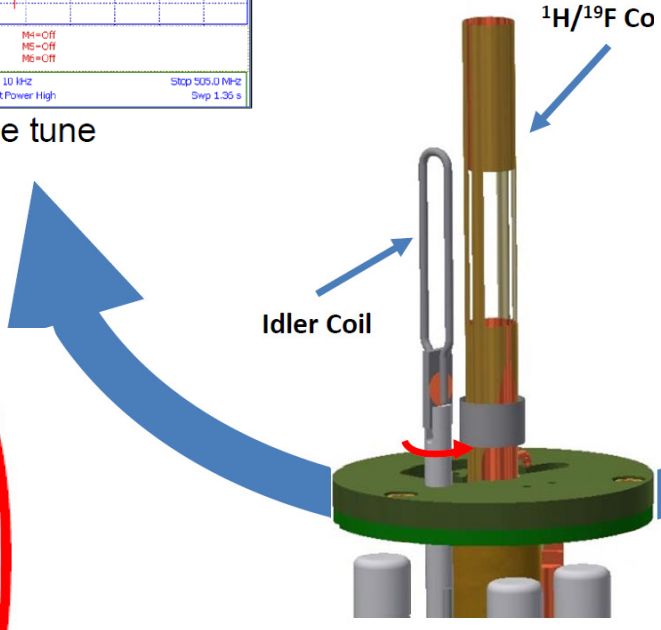
Two probes merged into one.
The JEOL ROYAL HFX NMR Probe



Single tune



Dual tune



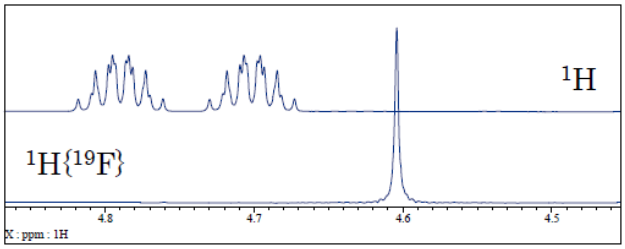
Auto-Tune extension

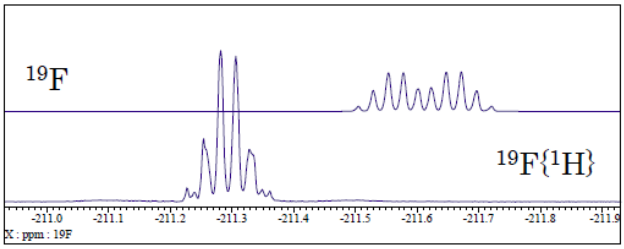
New HXF mode switch

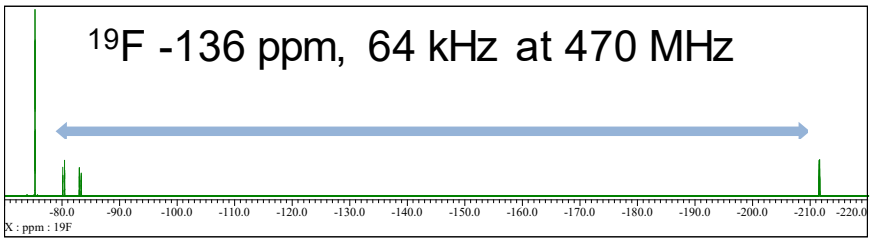
APPLICATION EXAMPLES OF ROYAL HFX PROBE

Operating the HFX probe in dual tune mode allows for a wide variety ^{1}H and ^{19}F of advanced NMR experiments including $^{1}H\{^{19}F\}$, $^{19}F\{^{1}H\}$, $^{13}C\{^{1}H,^{19}F\}$, and many unique $^{13}C\{^{1}H, ^{19}F\}$ correlation experiments to simplify spectral assignments of modern complex fluorine containing compounds for the pharmaceutical and polymer industries.

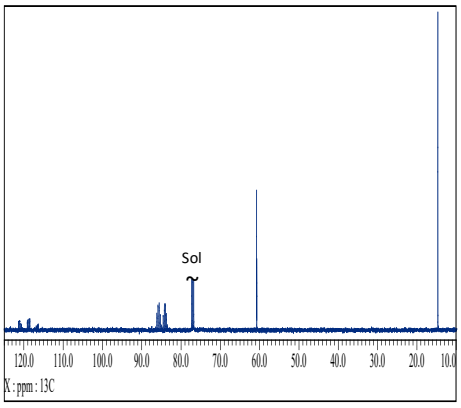
^{19}F -NMR examples measured on a standard two RF channel JNM-ECZ500R



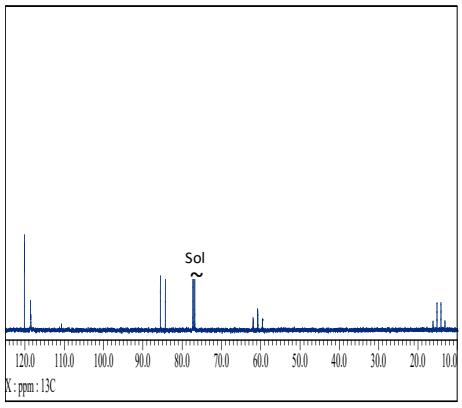




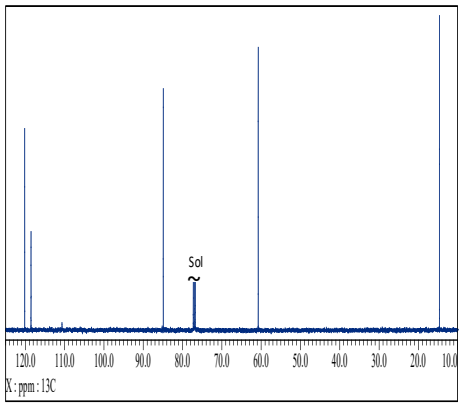
$^{13}C\{^{1}H\}$



$^{13}C\{^{19}F\}$



$^{13}C\{^{1}H,^{19}F\}$



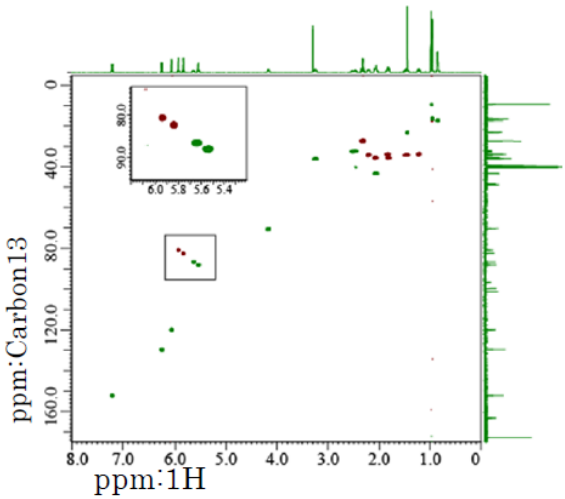
$CF_3–CHF–CF_2–O–CH_2–CH_3$

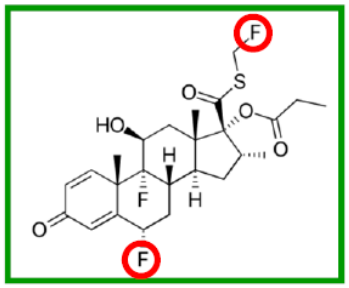
25mg, 1,1,2,3,3,3-Hexafluoropropyl ethyl ether / $CDCl_3$ ^{13}C-NMR 256 scans

APPLICATION EXAMPLES OF ROYAL HFX PROBE

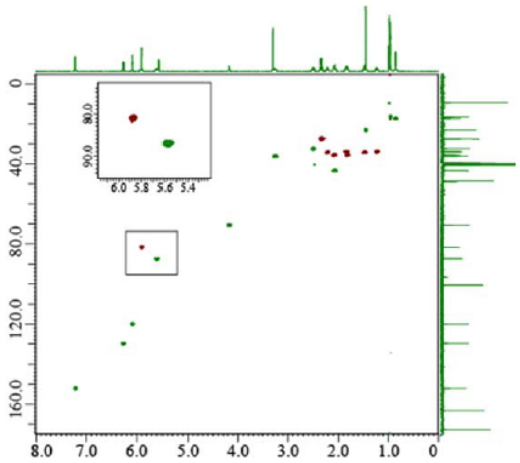
2D $^{1}H^{-13C}$ HSQC with ^{19}F decoupling, collected on a JEOL JNM-ECZ500R with optional HF2 ^{19}F 3rd channel.

$^{1}H^{-13C}$ edit HSQC

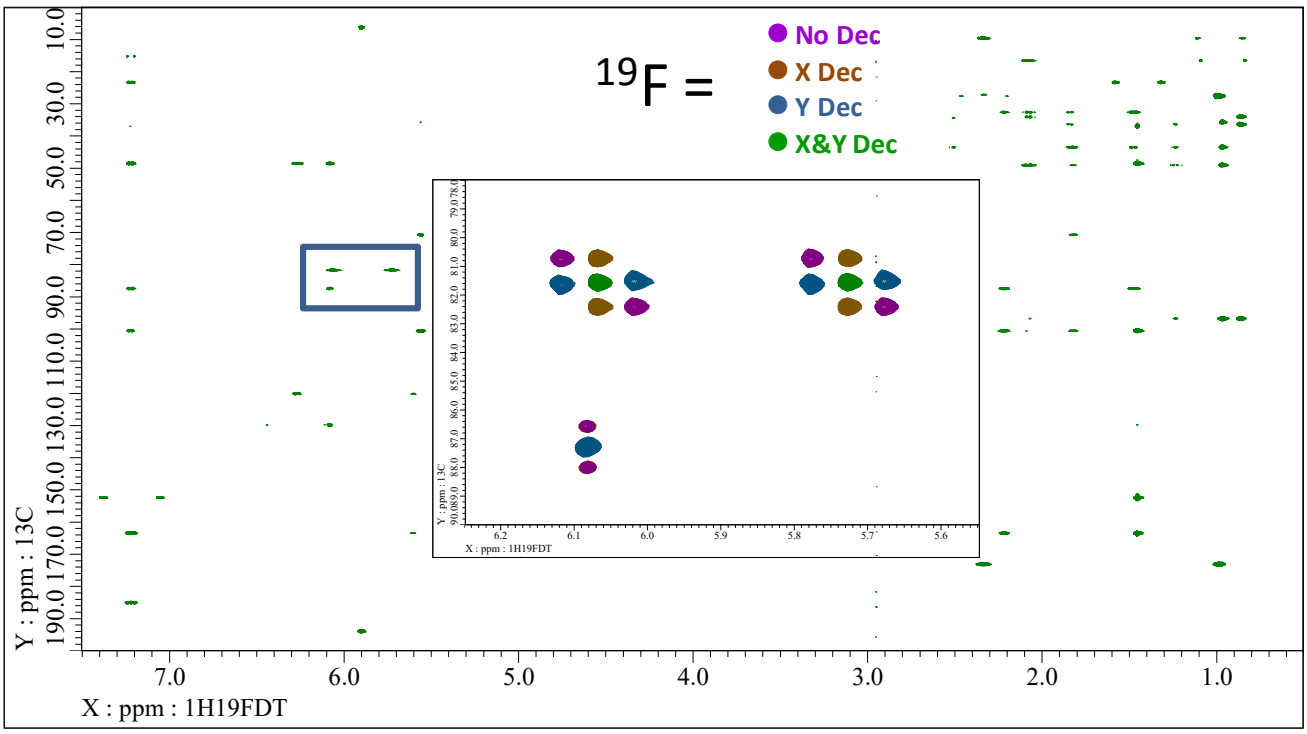




$^{1}H^{-13C}$ edit HSQC {^{19}F}



CRISIS-HSQCAD, 25% NUS 4scans

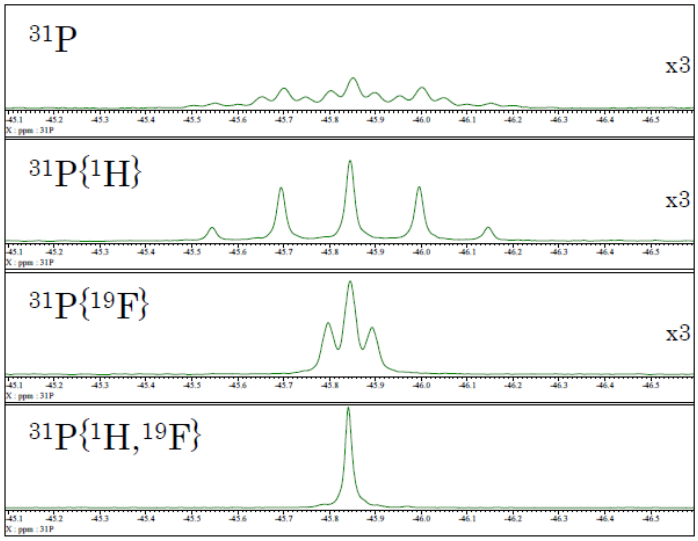


$^{1}H^{-13}C$ gHMBCAD, ^{19}F Decoupling Simplifies Assignments, 25% NUS, 8 Scans

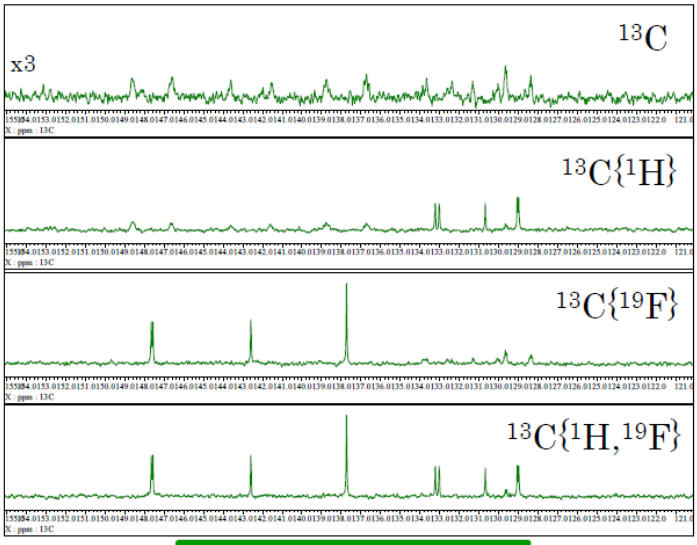
10mg Fluticasone Propionate / DMSO-d_6

APPLICATION EXAMPLES OF ROYAL HFX PROBE

The Low Frequency coil is not limited to ^{13}C, but can be tuned to any nucleus between ^{31}P and ^{15}N with the same experimental flexibility as ^{13}C experiments, a feature unique to the ROYAL HFX NMR Probe.

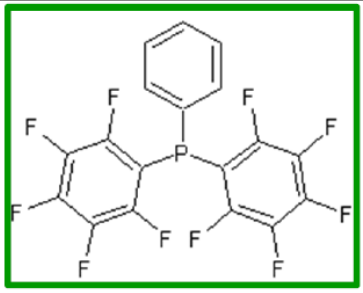


128 scans



256 scans

10mg, Decafluorotriphenyl Phosphine / $CDCl_3$ collected on a JEOL JNM-ECZ500R with optional HF2 ^{19}F 3rd channel



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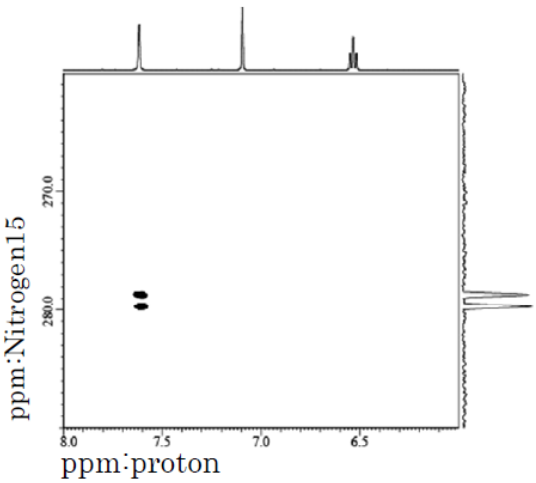
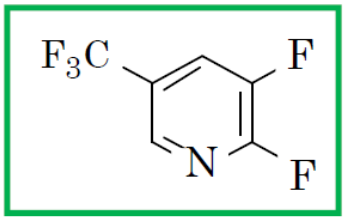
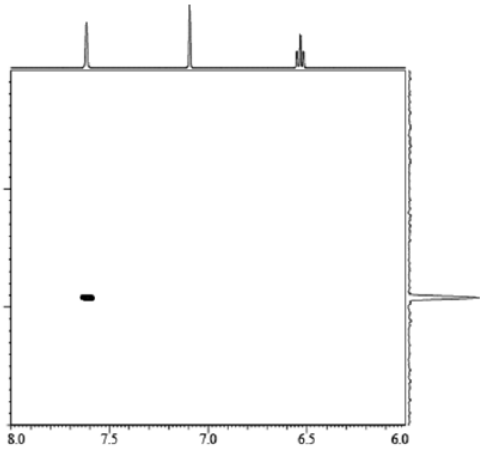
^{1}H-^{15}N HMBC





^{1}H-^{15}N HMBC{^{19}F}



25mg 2,3-difluoro-5-(trifluoromethyl)pyridine /Benzene-d_6 ^{1}H-^{15}N HMBC 4scans