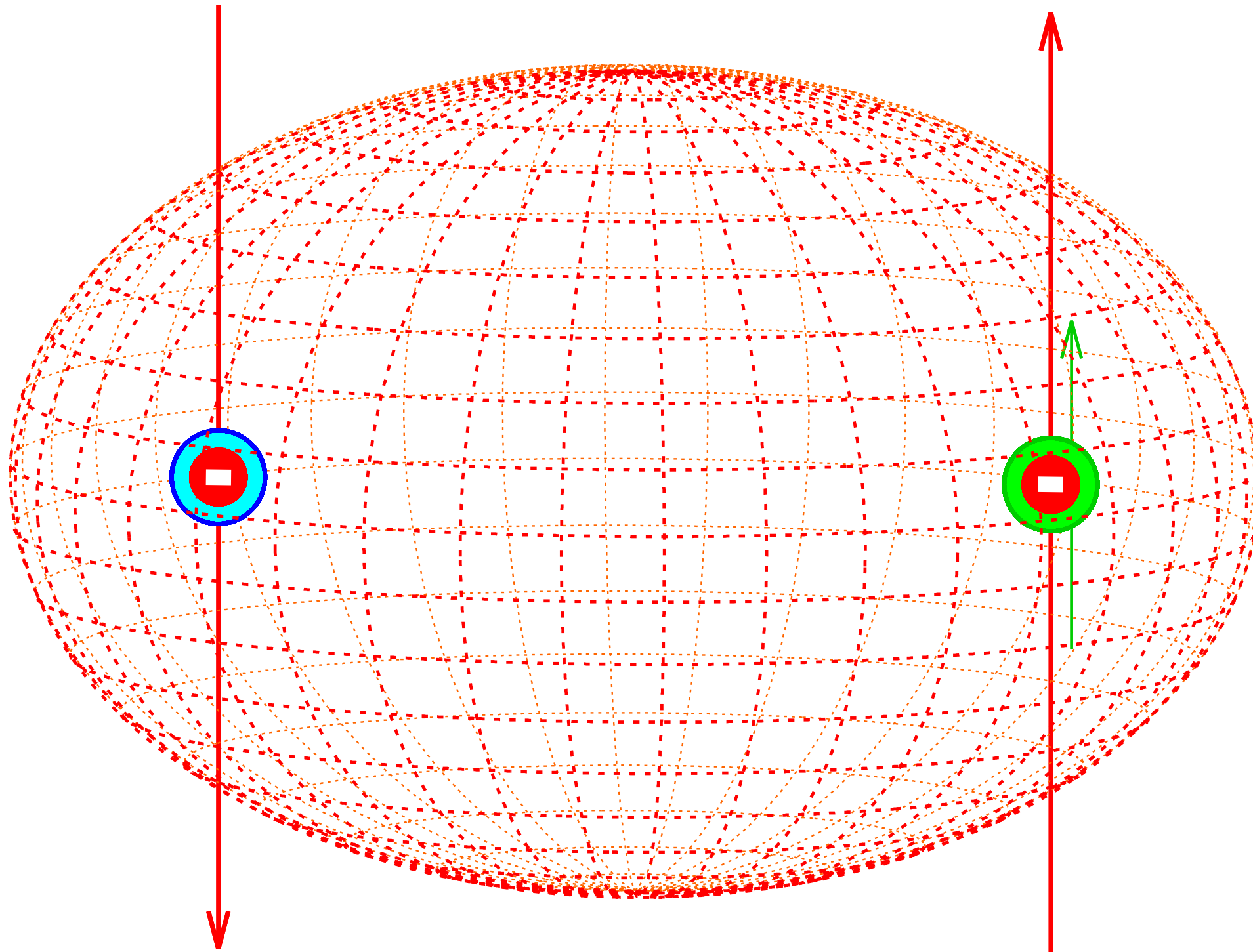
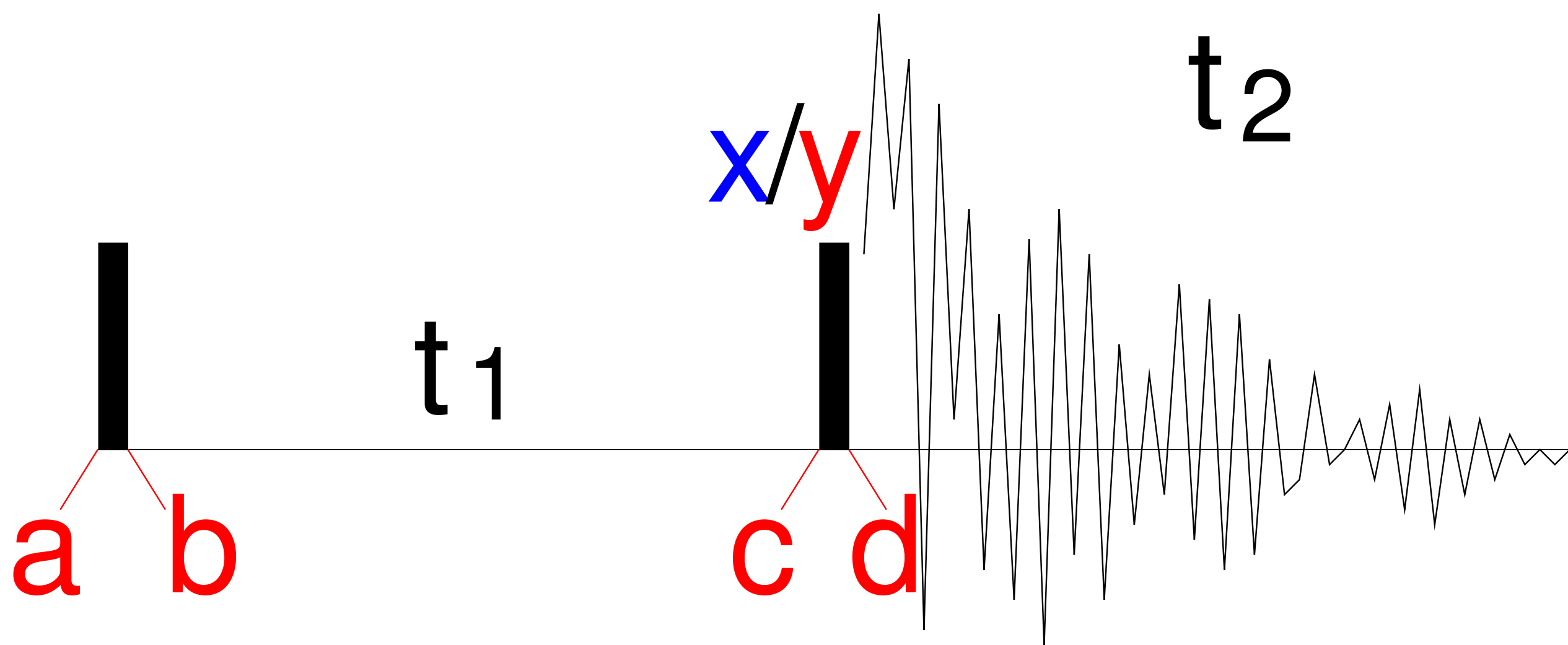


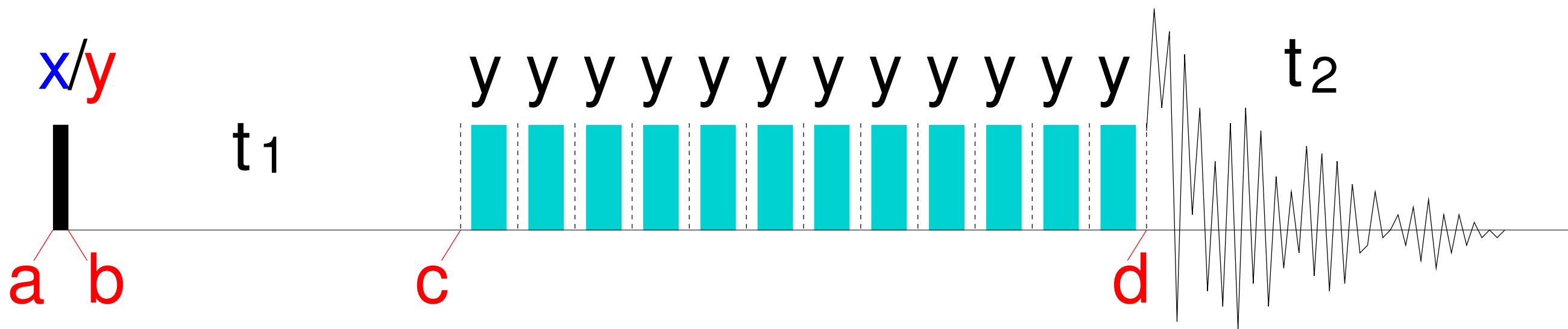
LECTURE 6



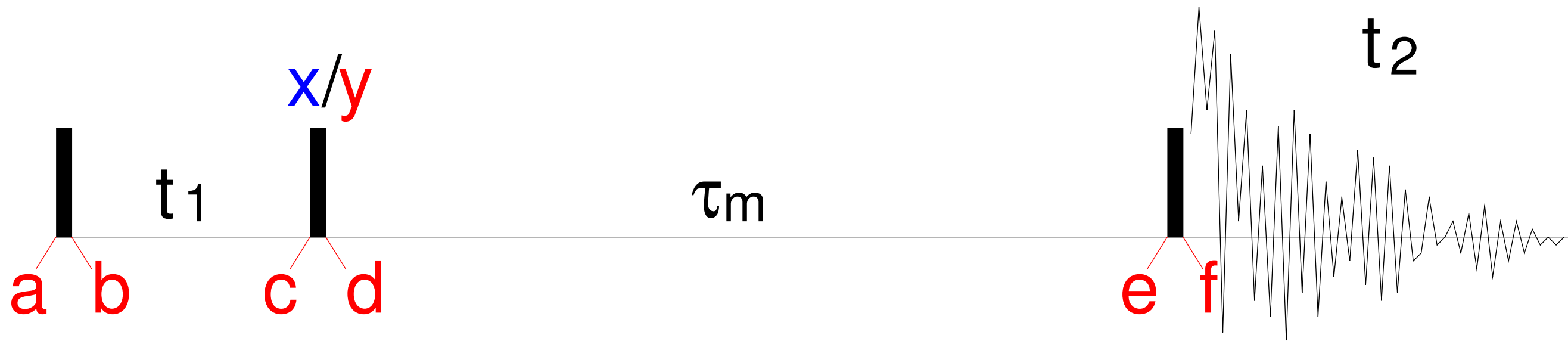
COSY



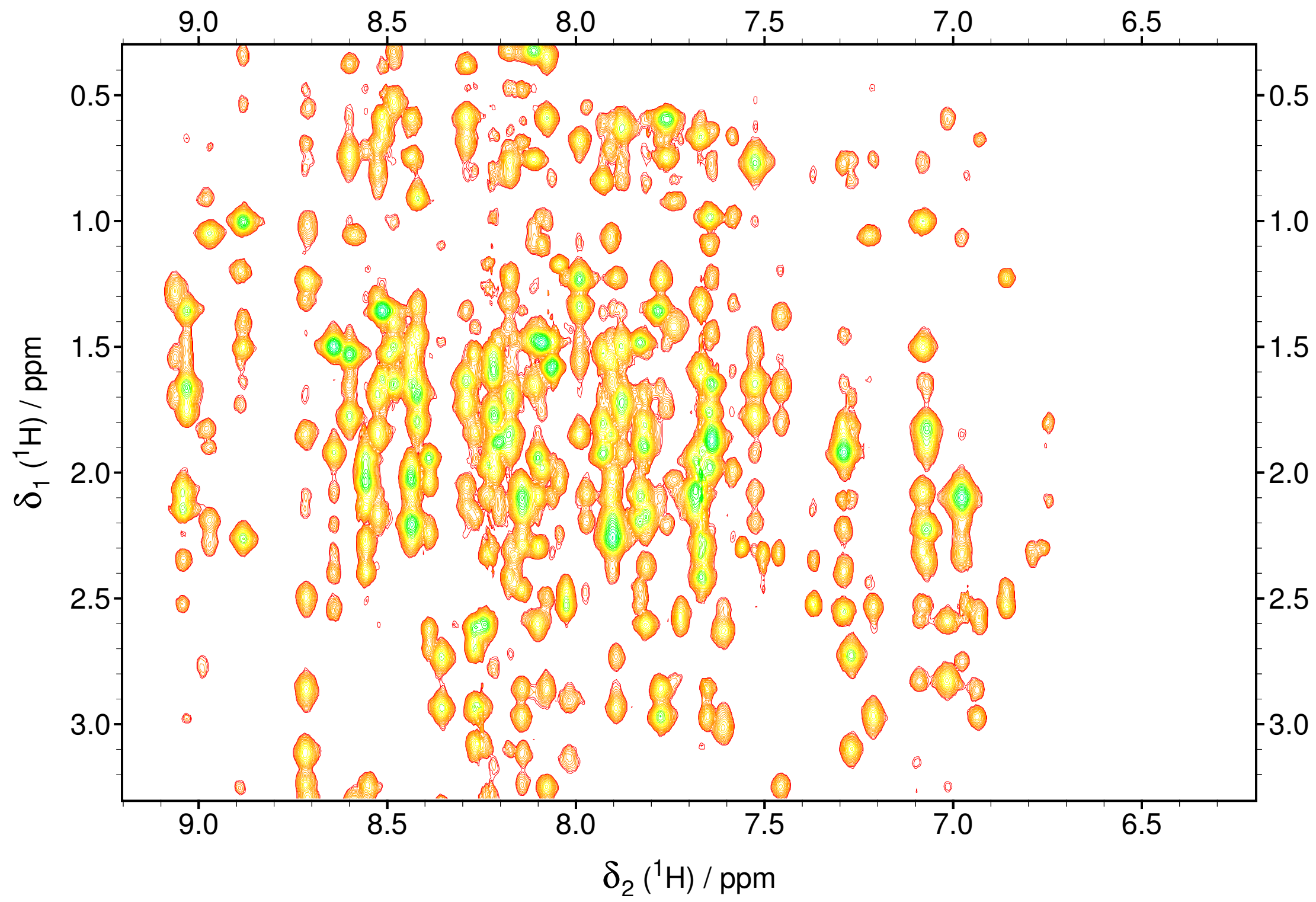
TOCSY



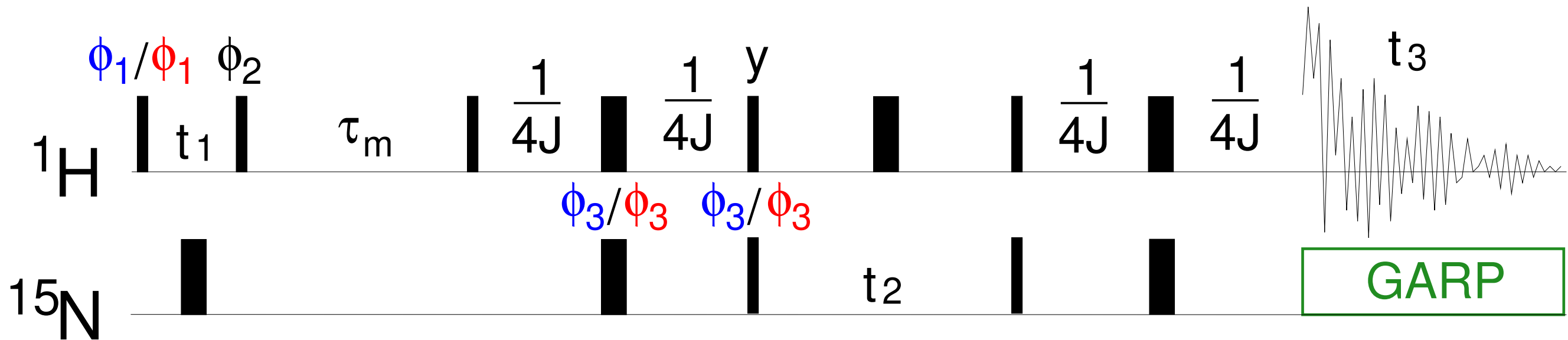
NOESY



Increment	proton 1				proton 2			
	at c	at d	at e	at f	at c	at d	at e	at f
0	$-y$	$-z$	$-z$	$+y$	$-y$	$-z$	$-z$	$+y$
1	$-y$	$-z$	$-z$	$+y$	$+x$	$+x$	0	0
2	$-y$	$-z$	$-z$	$+y$	$+y$	$+z$	$+z$	$-y$
3	$-y$	$-z$	$-z$	$+y$	$-x$	$-x$	0	0



NOESY-HSQC



$\phi_1 = X, X, -X, -X, X, X, -X, -X$

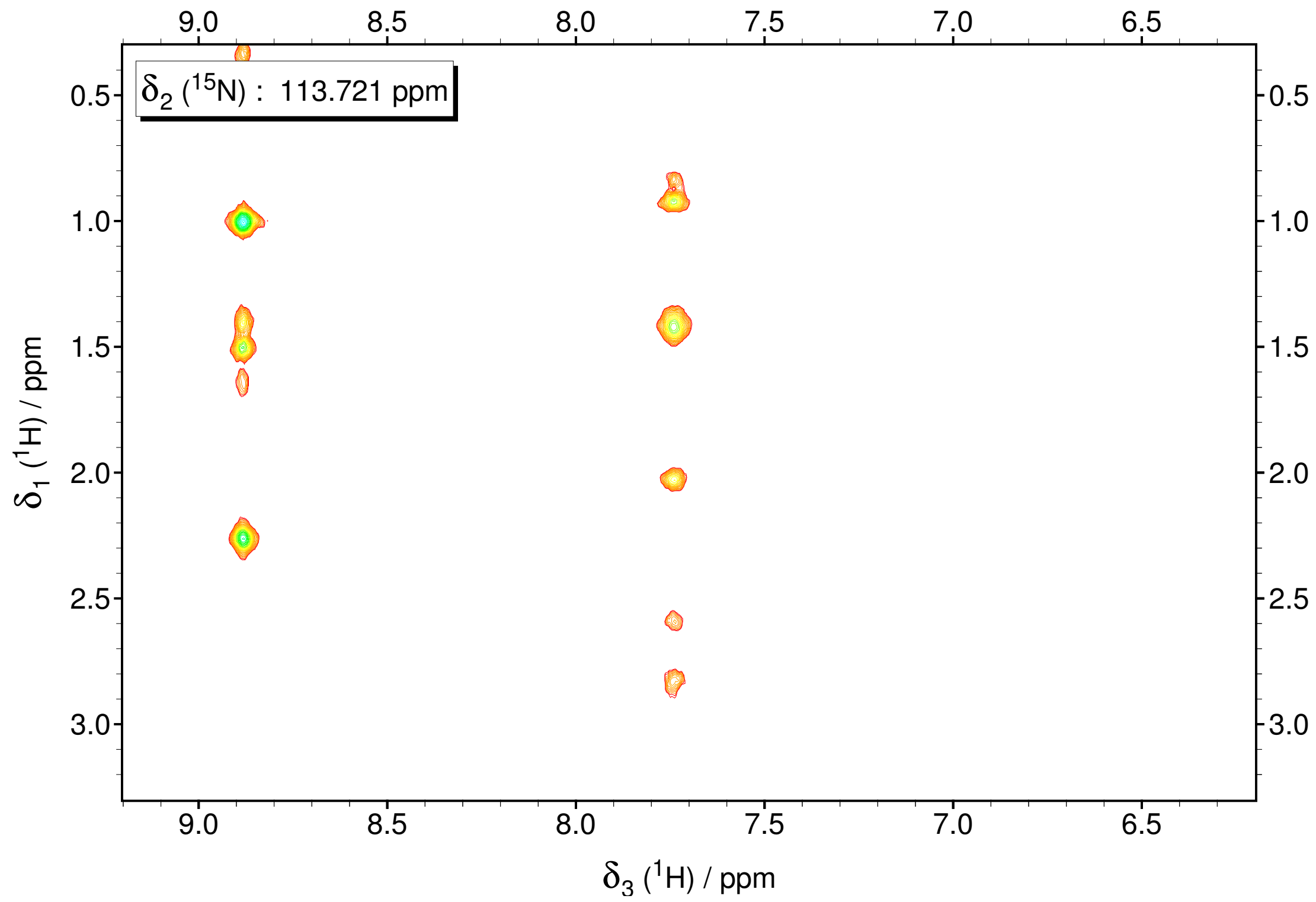
$\phi_1 = Y, Y, -Y, -Y, Y, Y, -Y, -Y$

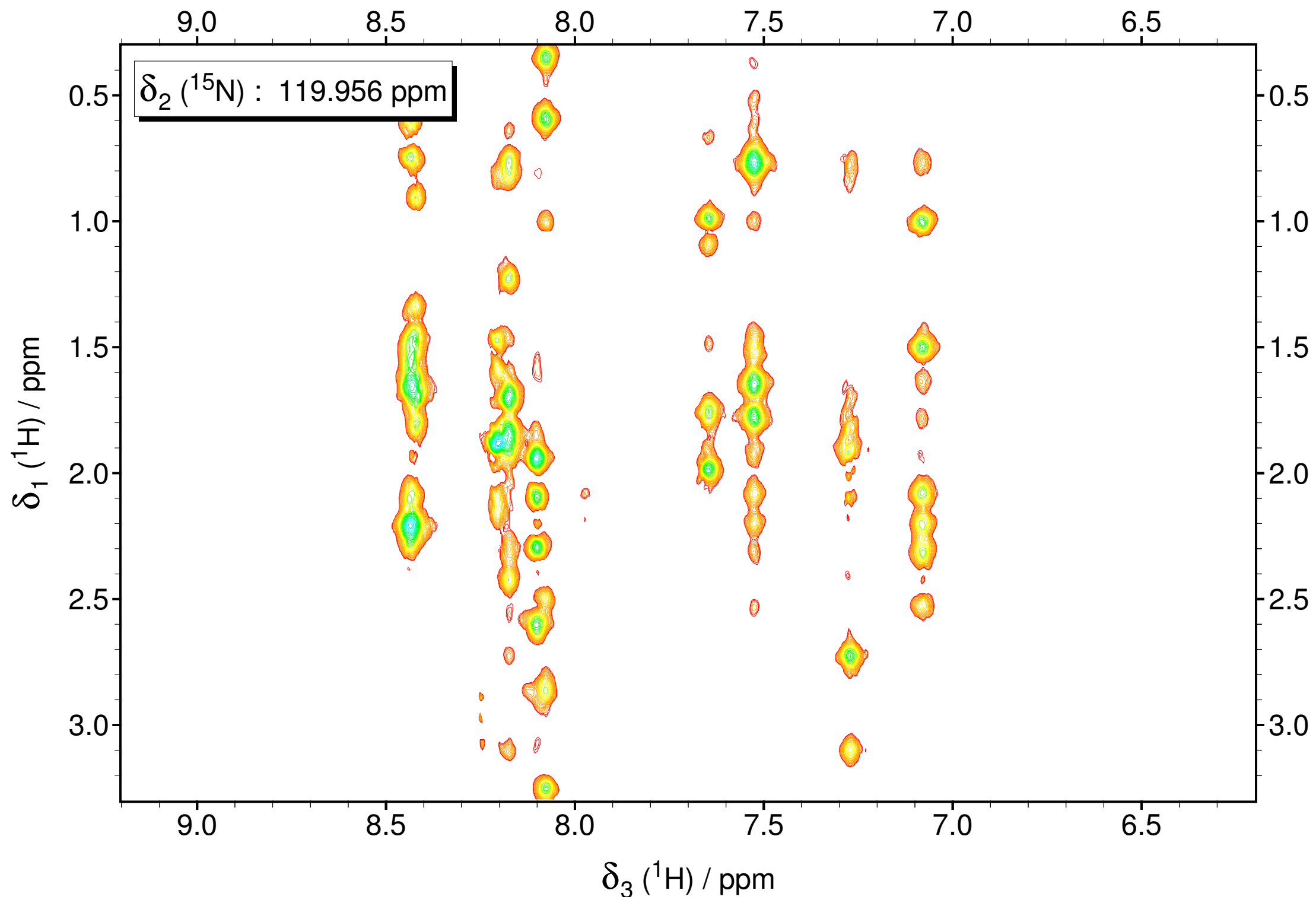
$\phi_2 = X, X, X, X, -X, -X, -X, -X$

$\phi_3 = X, -X, X, -X, X, -X, X, -X$

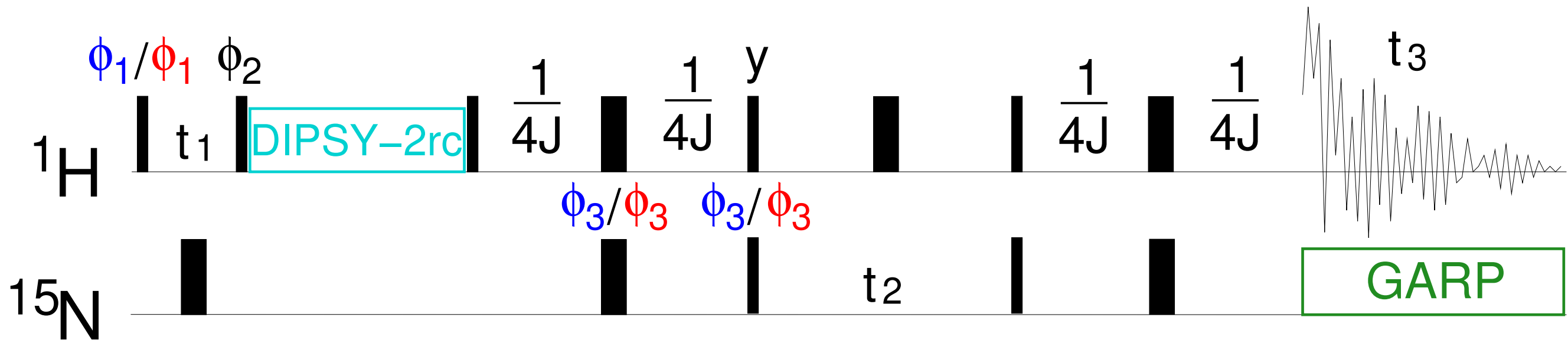
$\phi_3 = Y, -Y, Y, -Y, Y, -Y, Y, -Y$

receiver phase: $X, -X, -X, X, -X, X, X, -X$





TOCSY-HSQC



$$\phi_1 = X, X, -X, -X, X, X, -X, -X$$

$$\phi_1 = Y, Y, -Y, -Y, Y, Y, -Y, -Y$$

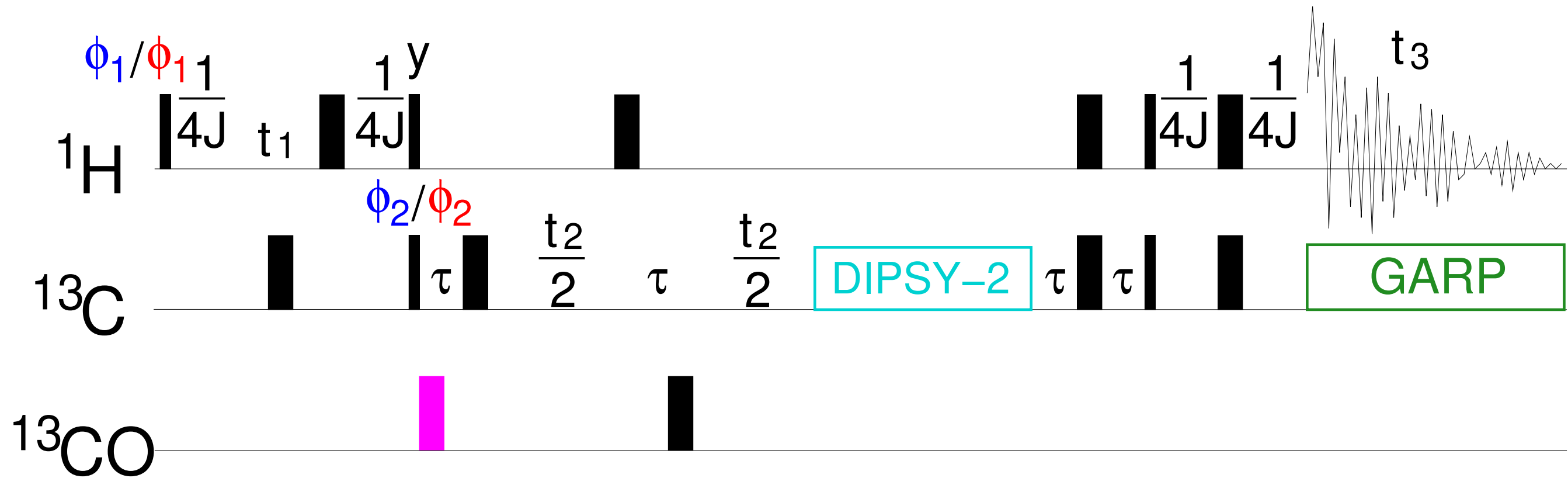
$$\phi_2 = X, X, X, X, -X, -X, -X, -X$$

$$\phi_3 = X, -X, X, -X, X, -X, X, -X$$

$$\phi_3 = Y, -Y, Y, -Y, Y, -Y, Y, -Y$$

$$\text{receiver phase: } X, -X, -X, X, -X, X, X, -X$$

HC(C)H-TOCSY

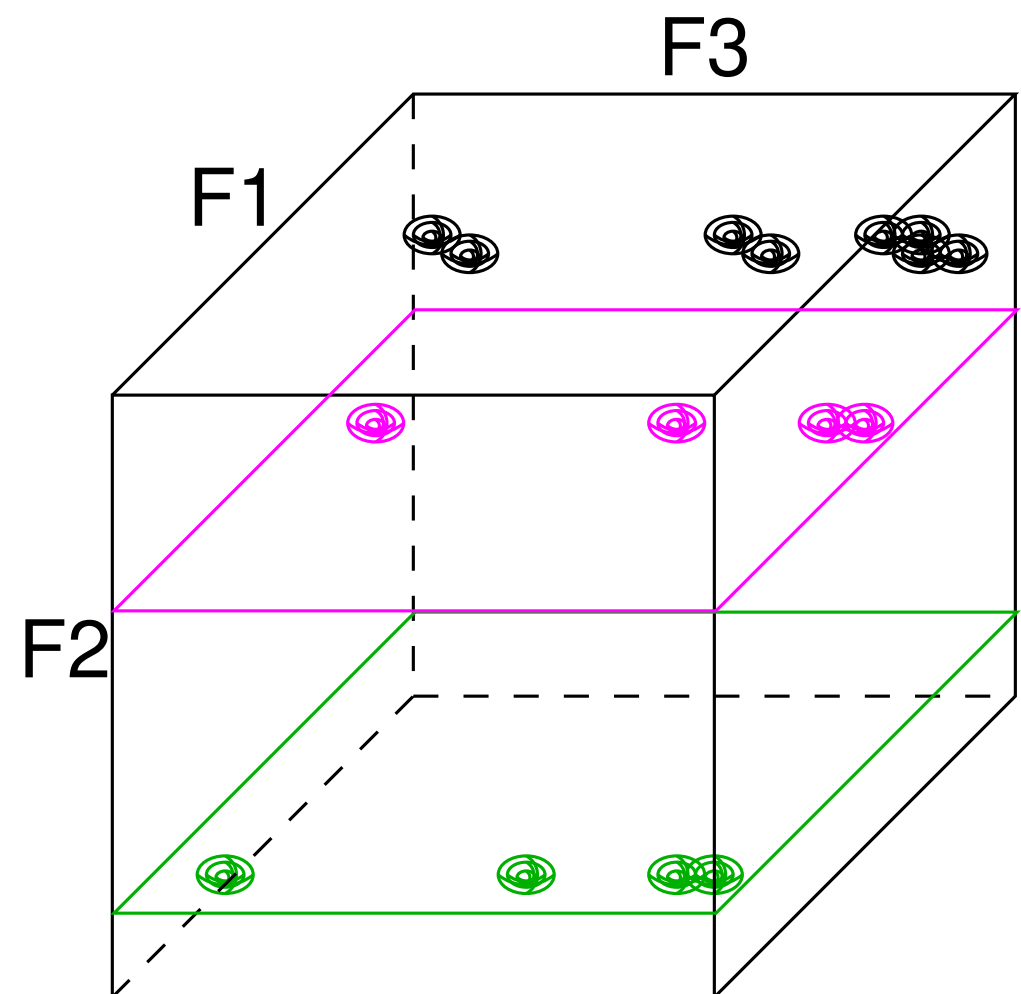
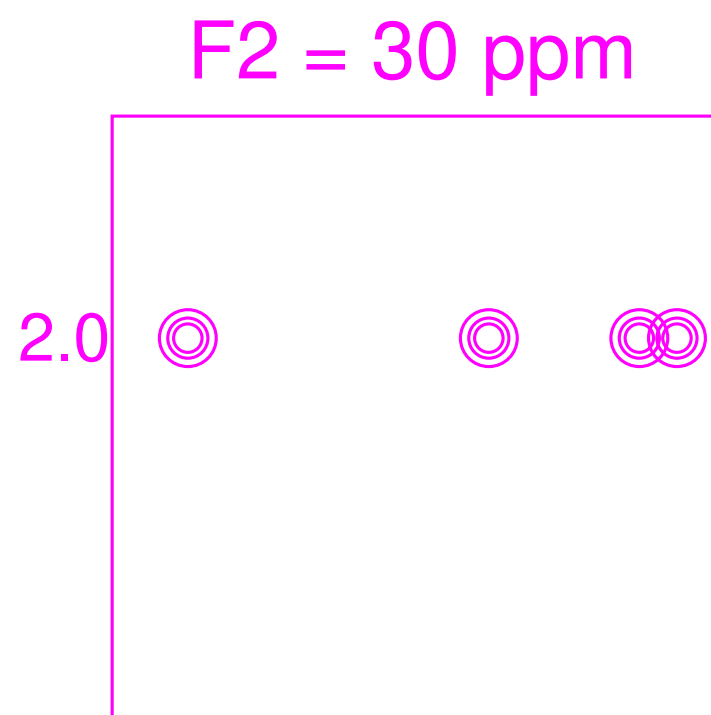
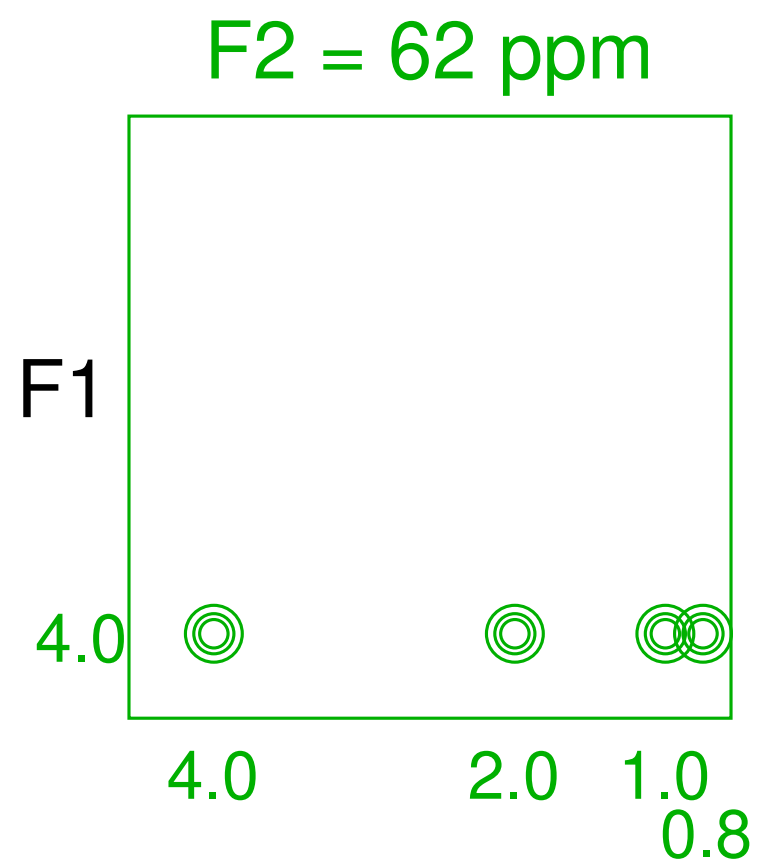


$\phi_1 = X, -X, X, -X, X, -X, X, -X$ $\phi_2 = X, X, -X, -X, X, X, -X, -X$

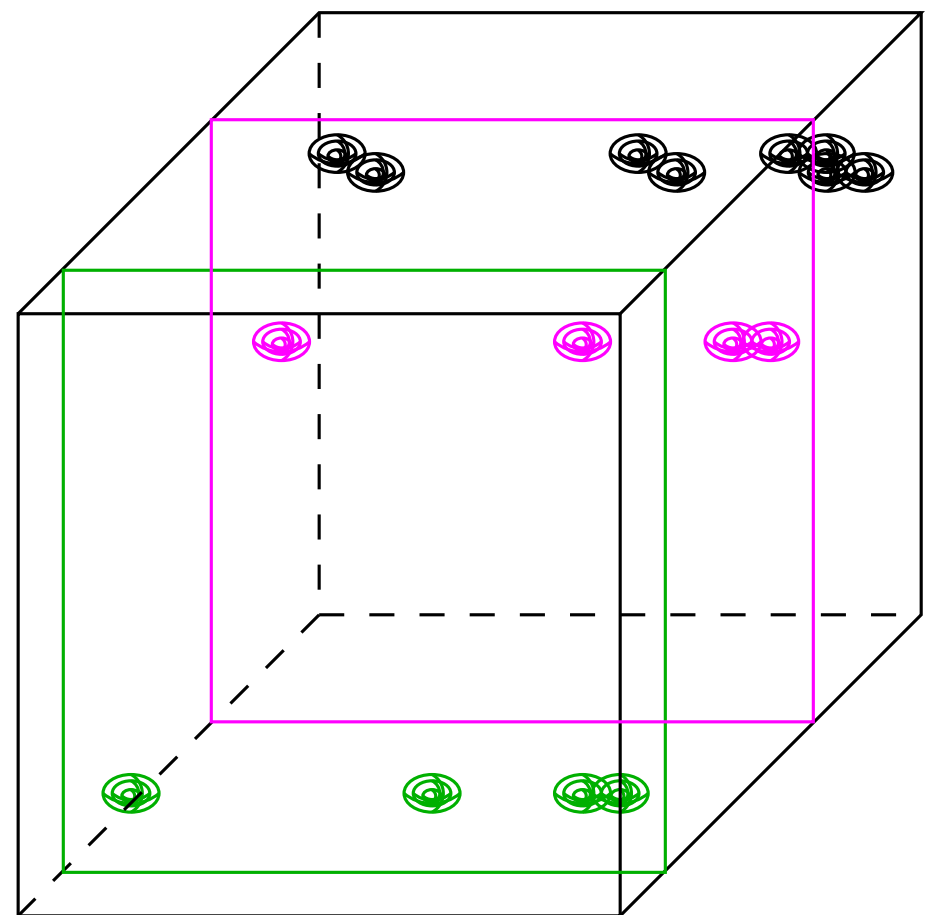
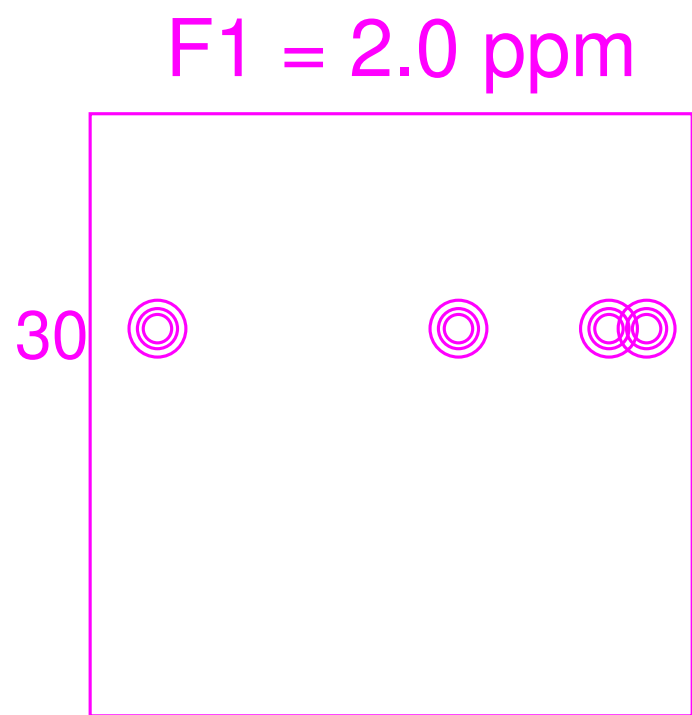
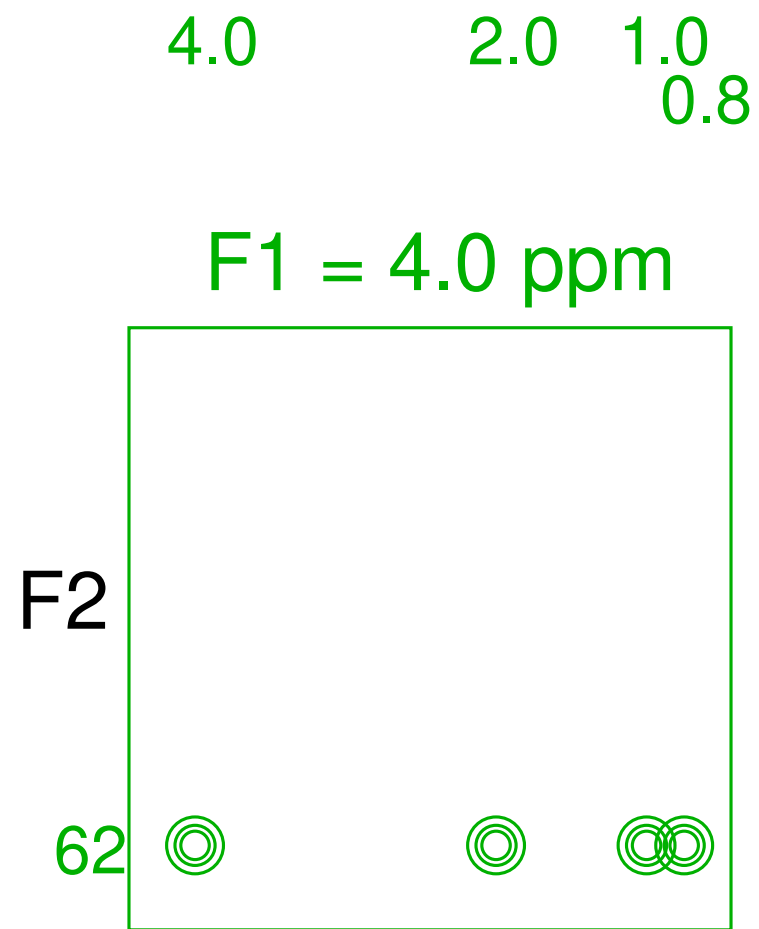
$\phi_1 = Y, -Y, Y, -Y, Y, -Y, Y, -Y$ $\phi_2 = Y, Y, -Y, -Y, Y, Y, -Y, -Y$

receiver phase: $X, -X, -X, X, -X, X, X, -X$

a

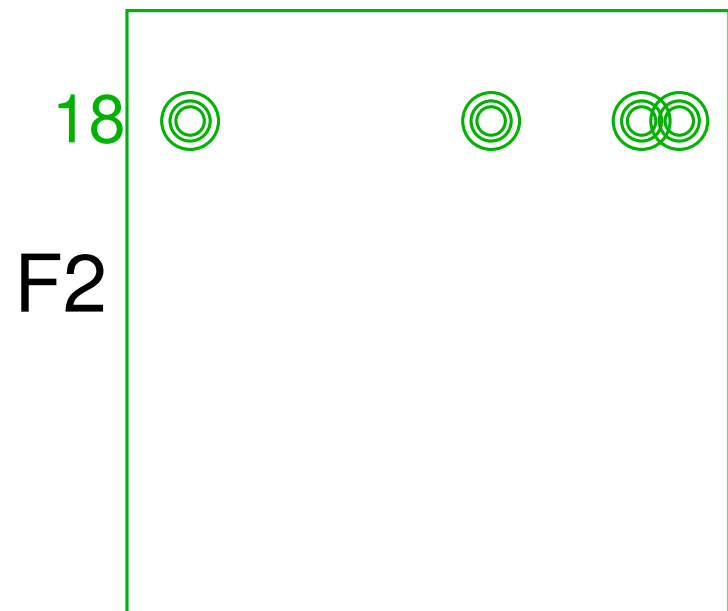


b

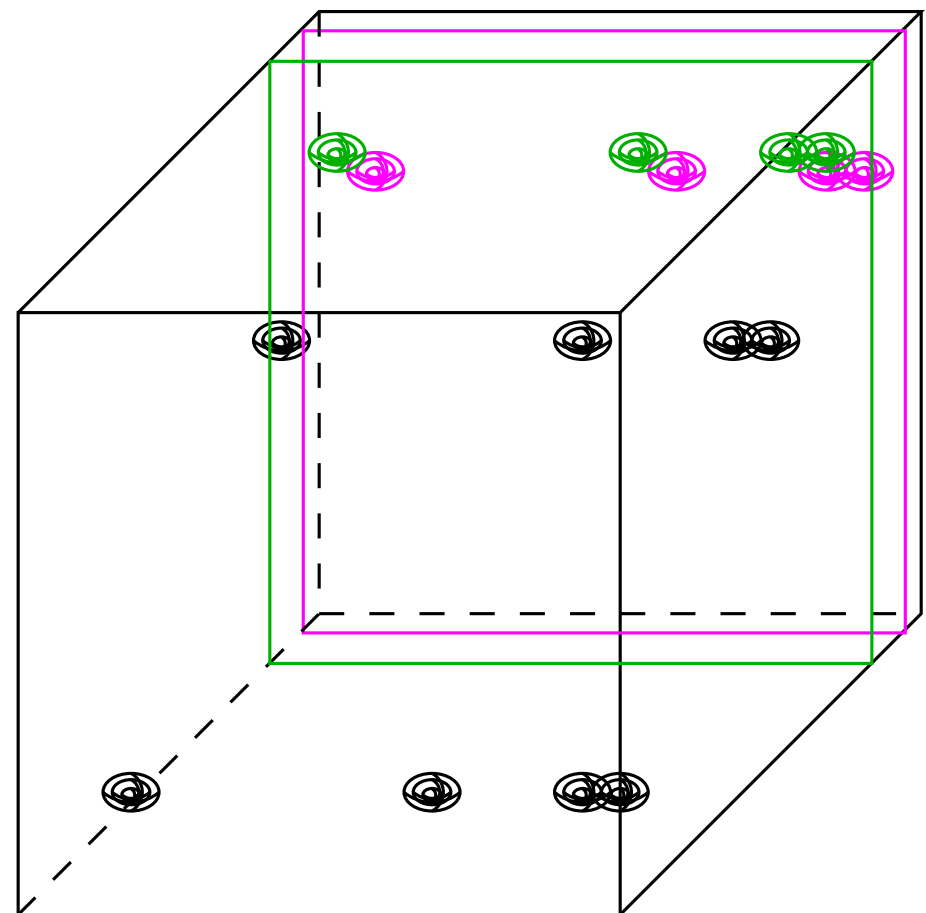
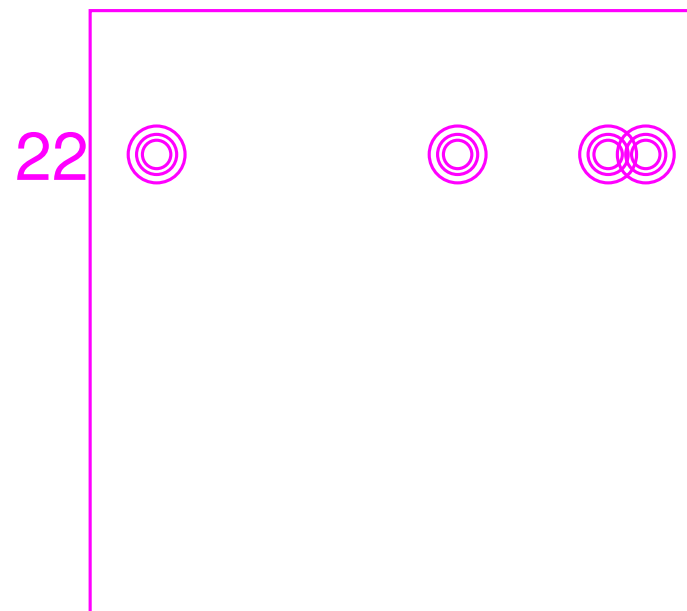


C

F1 = 1.0 ppm



F1 = 0.8 ppm



d

