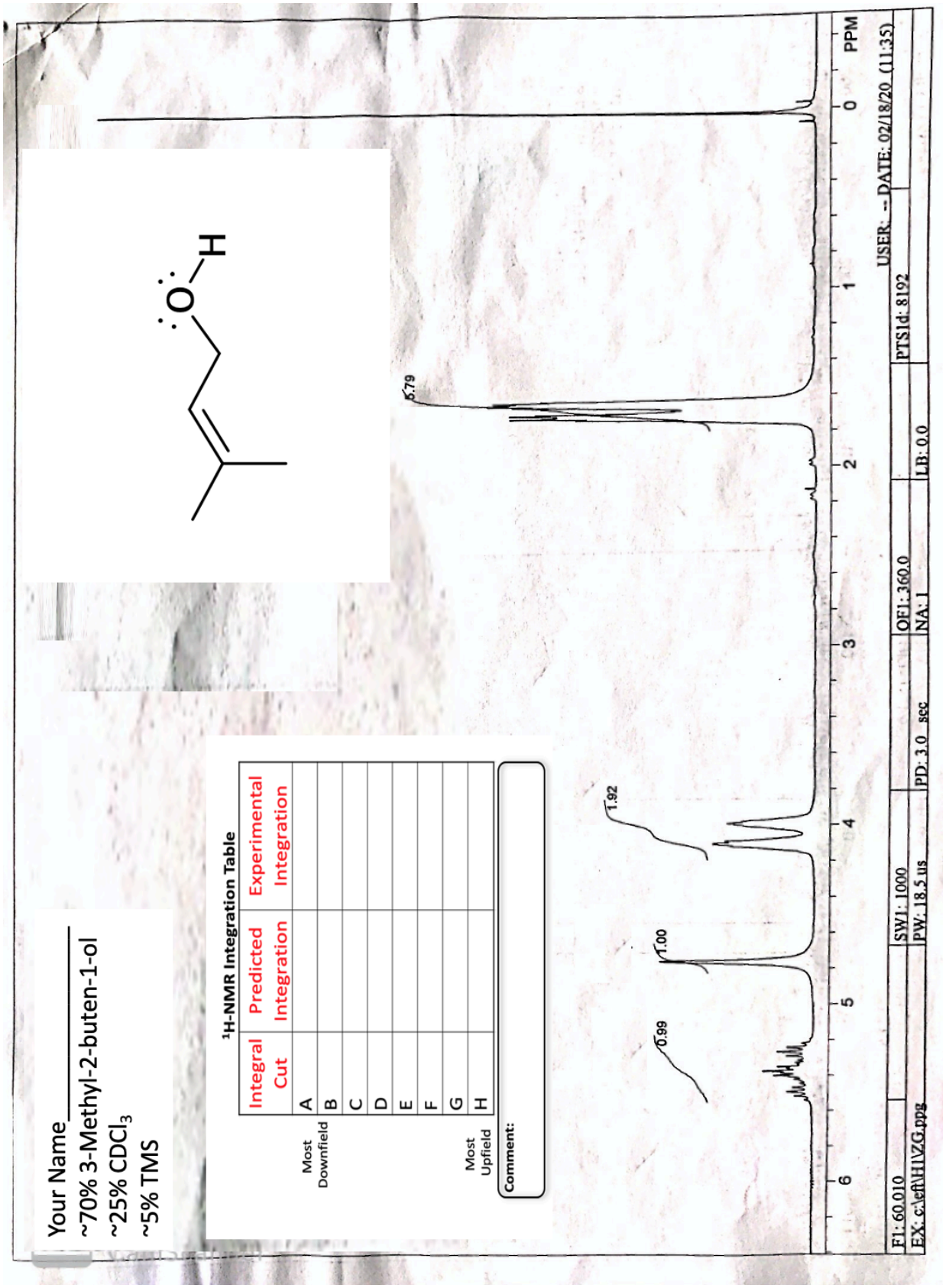
Chem. 12B S2020 **1D & 2D-NMR (12 pts)** **Name**_____

Fully label these spectra as if you took them, as you've been taught*, send back to me via Canvas
*See the 1D & 2D-NMR Lab. Guide Introduction at…
Intro_1D & 2D NMR.pdf

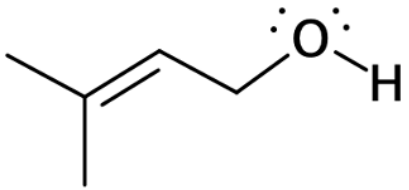


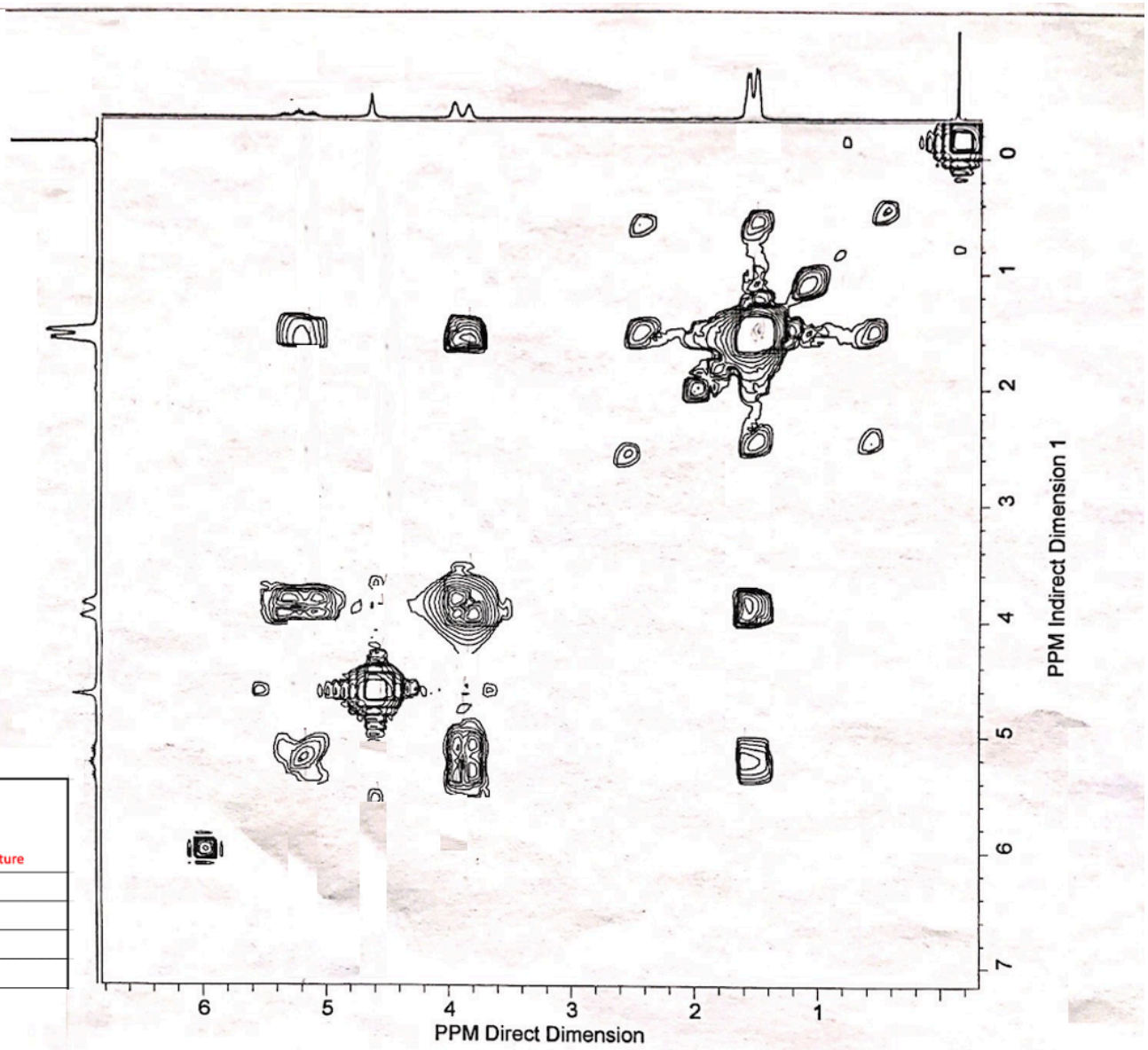
Your Name_____

~70% 3-Methyl-2-buten-1-ol

~25% $CDCl_3$

~5% TMS





COSY Coupling Table

H Group	Coupling Partener 1	Coupling Partener 2	Does it agree with your structure
A			
B			
C			
D			

*Remember sometimes the Coupling does not agree with our 3 to 4 bond coupling rules, just state you don't agree.

F1: 60.010	F2: 60.010	SW1: 1000	SW2: 1000	OF1: 360.0	OF2: 360.0	PTS1d: 512	USER: -- DATE PTS
EX: c:\eft\H1\COSY.ppg		PW: 18.5 us	PD: 2.0 sec	NA: 1	LB: 0.0		

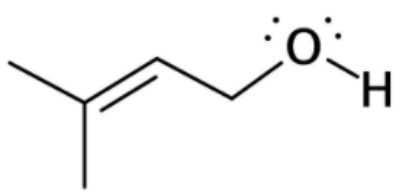
Your Name_____

~70% 3-Methyl-2-buten-1-ol

~25% $CDCl_3$

~5% TMS

Remember to put Letters and Numbers on the spectra and the structure below.



HETCOR Correlation Table

C Signal	H on the C	Does it agree with your structure
1		
2		
3		
4		
5		

F1: 15.089	F2: 60.010	SW1: 5000	SW2: 1000	OF1: 1521.0	OF2: 360.0	PTS1d: 4096	PTS2d: 1 , 128
EX: c:\eft\C13\HETCOR.ppg		PW: 14.0 us	PD: 2.0 sec	NA: 4	LB: 4.0		

USER: -- DATE: 03/05/20 (14:18)

Your Name_____

~70% 3-Methyl-2-buten-1-ol

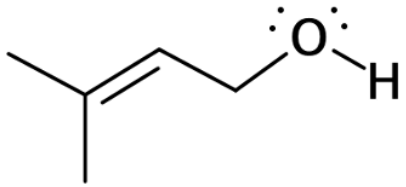
~25% $CDCl_3$

~5% TMS

DEPT Table

C Signal	Number of H's on C	Does it agree with your structure
1		
2		
3		
4		
5		

Number the signals for each spectra. Use same numbers used on HETCOR and 1D ^{13}C-NMR (for example, signal at ~ 59ppm should Be 3 for all spectra).



USER: -- DATE: 03/05/20 (14:33)

F1: 15.089	SW1: 5000	SW2: 0	OF1: 1521.0	OF2: 360.0	PTS1d: 16384	PTS2d: 1 . 3
EX: c:\efl\C13\DEPT.ppg	PW: 14.0 us	PD: 2.7 sec	NA: 12	LB: 0.5		

Your Name_____

~70% 3-Methyl-2-buten-1-ol

~25% $CDCl_3$

~5% TMS

^{13}C-NMR Functional Group Table

Functional Group (ppm)	Predicted # Signals	Experimental # Signals
Alkyl (~15)		
Alpha to Carbonyl (~25)		
Alpha to O or N (~50)		
Alkyne (~80)		
Alkene/Aromatic (~100-160)		
Carbonyl w/ Res (~175)		
Carbonyl w/o Res (~200)		

Comment: