Name AP Chemistry
HW 10_1: Due 1/19/18 Write the letter of the correct answer on the line in front of the question.
Use the following answers for questions 1- 11. (A) A network solid with covalent bonding (C) A molecular solid with hydrogen bonding (E) A metallic solid (B) A molecular solid with zero dipole moment (D) An ionic solid
1. Solid ethyl alcohol, C ₂ H ₅ OH
2. Solid Silicon dioxide, SiO ₂
3. Solid lithium chloride (LiCl)
4 Solid ammonia (NH ₃)
5. Solid gold (Au)
6. Solid dry ice (CO ₂)
7. Solid magnesium oxide (MgO)
8. Solid I ₂
9. Solid hydrogen fluoride (HF)
10. Solid osmium (Os)
11. Solid cesium iodide (CsI)
Use these answers for questions 12-15 (A) hydrogen bonding (D) resonance (B) hybridization (C) ionic bonding (E) van der Waals forces (London dispersion forces)
12 Is used to explain why iodine molecules are held together in the solid state
13 Is used to explain why the boiling point of HF is greater than the boiling point of HBr
14 Is used to explain the fact that the four bonds in methane are equivalent
15 Is used to explain the fact that the carbon-to-carbon bonds in benzene, C ₆ H ₆ , are identical
Use the following answers for questions 16 - 18.
(A) Macromolecules held together with strong polar bonds.(B) Closely packed lattice with delocalized electrons throughout
(C) Lattice of positive and negative ions held together by electrostatic forces. (D) Strong multiple covalent bonds (including bonds.) with weak intermolecular forces (E) Strong single covalent bonds with weak intermolecular forces.
16. Cesium chloride, CsCl (s)
17 Silver, Ag (s)
18 Carbon dioxide, CO ₂ (s)
19. A hard, crystalline solid with a high melting point does not conduct electricity in any phase. This solid is most likely:
(A) an ionic solid. (B) a metallic solid. (C) a molecular solid. (D) a network covalent solid. (E) none of the above

20. A s	solid is insoluble in water,	does not conduct electr	icity, and does	not melt below 1000 °C.	This solid could be	
(A) Pt (B) Si			$C_{10}H_{22}$	(E) CH ₃ CH ₂ OH		
/			N 4000 (NEW)	NO. 60 (20) TO		
	e boiling points of the hale	ogens, F ₂ , Cl ₂ , Br ₂ and I ₃	2, increase in th	at order. This is best attri	buted to differences	
in:	.4. (D) 1: .1. C	(O) I I I' '	C	(D) 11: 1: C	00) · ' 1'	
(A) covalent bond streng	gths (B) dipole forces	(C) London dispersi	on forces	(D) colligative forces	(E) atomic radius	
22. The	e lowest melting points ov	erall occur for members	of which class	of solids?		
(A) ionic (B) me				(E) non-polar molecular		
(-)	(-) F	(2) 100,101	11 00 , 40,000	(2) non point moreovan		
23 What are the strongest intermolecular force between neighboring carbon tetrachloride, CCl ₄ , molecules?						
(A) dipole-dipole forces		(C) hydrogen bonds			nic bonds	
	e compounds C ₃ H ₈ , CH ₃ C			ar molar masses. When the	hey are arranged in	
	gth of their intermolecula				OH OH	
(A) C_3H_8 , CH_3OCH_3 , CH_3OCH_3	(D) CH_3OCH_3 , C_3H_8 , (CH₃CH₂OH, CH₃OCH₃, CH₃CH₂OH (E		(C) CH ₃ OCH ₃ , CH ₃ CH ₂ C ₃ H ₈ , CH ₃ OCH ₃	C_3H_8	
~	(D) C113OC113, C3118, C		<i>)</i> C113C112O11,	C3118, C113OC113		
25. Wh	ich property does not indi-	cate strong intermolecul	ar forces?		dir.	
(A) high enthalpy of vap		9) high critical t	emperature		
(D) hi	gh vapor pressure	() high melting poi	int	•		
				Ab.		
26	6.1	P '111 : P		4		
	Substance	Equilibrium V	apor Pressure a	at 20°C (torr)		
	$\begin{array}{c} C_6H_6(l) \\ C_2H_5OH(l) \end{array}$	alle.	75 44			
	$C_2H_5OH(l)$ $CH_3OH(l)$		92			
	$C_4H_9OH(l)$		32			
	$C_2H_6O_2(l)$		0.06			
	2==0 = 2(*)		0.00			
Based on the data in the	table above, which of the	following liquid substar	nces has the we	akest intermolecular forc	es?	
	table above, which of the H ₅ OH(<i>l</i>) (C) C		nces has the we (b) C ₄ H ₉ OH(<i>l</i>)	akest intermolecular forc (E) C ₂ H ₆ O ₂ (<i>l</i>)	es?	
(A) $C_6H_6(I)$ (B) C_2	$H_5OH(I)$ (C) C	CH₃OH(I) (C	O) C ₄ H ₉ OH(<i>l</i>)		es?	
(A) $C_6H_6(I)$ (B) C_2 27 In t	$H_5OH(l)$ (C) Che diagram to the right, w	CH₃OH(I) (C	O) C ₄ H ₉ OH(<i>l</i>)		es?	
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