

## General Chemistry II Jasperse

Intermolecular Forces, Ionic bond strength, Phase Diagrams, Heating Curves. Extra Practice Problems

## Answers

1. 1-2-3-4 ( $\text{Al}_2\text{S}_3 > \text{MgO} > \text{MgCl}_2 > \text{NaCl}$ ) Ion charge
2. 1-2-3-4-5 ( $\text{LiF} > \text{NaF} > \text{NaCl} > \text{NaI} > \text{KI}$  (Ion size)
3. 3-5-4-1-2 ( $\text{Fe}_3\text{N}_2 > \text{CaO} > \text{Na}_2\text{O} > \text{LiCl} > \text{NaBr}$ ) (Ion size first, then size as tiebreaker)
4. 1-2-3 ( $\text{MgO} > \text{CaO} > \text{BaO}$ )
5. b
6. a
7. b (this is for corrected version of question. Original version had a confusion factor included)
8. a
9. 1-2-3-4 ( $\text{Mg}^{2+} > \text{Na}^+ > \text{H-Br} > \text{N}_2$ )
10. d

## 11. Classify

- a. Nonpolar
- b. Polar
- c. Nonpolar
- d. Polar
- e. Weakly polar
- f. Polar
- g. Polar
- h. Polar
- i. Nonpolar
- j. Metal
- k. Ionic

12. C

13. C

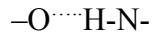
14. C

## 15. Classify

- a. Molecular
- b. Molecular
- c. Network
- d. Molecular
- e. Network
- f. Molecular
- g. Molecular
- h. Molecular
- i. Network
- j. Molecular
- k. Network
- l. Molecular

16. B

17. Which show a “hydrogen bond”

18.  $\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$ ,  $\text{CH}_3\text{CH}_2\text{NH}_2$ 

19. C

20.  $\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$ 

21. 3-2-1

22. 1-3-2-4 (Ca(OH)<sub>2</sub> > CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>OH > CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>OH > CH<sub>3</sub>CH<sub>2</sub>OCH<sub>3</sub>)
23. 4-3-1-2 (CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub> > CH<sub>3</sub>CH<sub>2</sub>OCH<sub>3</sub> > CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>OH > CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>OH)
24. 3-1-4-2 (LiCl > CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub> > CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub> > N(CH<sub>3</sub>)<sub>3</sub>)
25. e
26. b
27. a
28. b
29. c
30. d
31. b
32. d
33. e
34. a, d, and e are all true.
35. c
36. Y-X-W-Z
37. B
38. A
39. About 0.5 atm
40. About 1.5 atm
41. Melt
42. Sublime
43. C
44. d
45. e-c-a-b-d
- 46.
- a. solid
  - b. solid + liquid
  - c. liquid
  - d. liquid + gas
  - e. gas