Additional Info for Ch 12 and 13 Test p. 3 & 4 Biochem 2016

18. How many geometric stereoisomers are possible if there are 2 double bonds in the molecule? \_\_\_\_\_\_\_\_\_\_\_ 3 db?\_\_\_\_\_\_\_\_\_\_\_ (See exp 12.4. Know formula!)

19. a) Distinguish between saturated vs. unsaturated hydrocarbons.

b) Which is more oxidized?

20. Distinguish between nucleophile and electrophile.

21. A) What is the trend regarding alkenes and boiling point?

B) Relate the above (A) to a structural isomers that are more linear vs ones that are more branched.

22. Are hydrocarbons soluble in water? \_\_\_\_\_\_\_ Explain why or why not.

23. Are hydrocarbons soluble in other alkanes? \_\_\_\_\_\_\_ Explain why or why not.

24. Is C-C-C-OH a primary, secondary or tert alcohol?

25. What kind of reaction(s) do(es) benzene undergo?

26.A) What is a chain-growth polymer? (Ch 12)

B) What must happen for ethylene to polymerize to polyethylene?

27. Distinguish between LDPE and HDPE (relate to branching and melting point)

28. **Relating Organic to Biology (Biochem):**

A- Read Chem Connections 12A (p. 353). What plant hormone causes ripening?

B- Read Chem Connections 12B (p. 358). What pheromone mixture do male respond to?

C- Read Chem Connections 12C (p. 361). What must happen to rhodopsin before a neuron (nerve) transmits an impulse (‘fires’)?

D- Read Chem Conn 18A (p. 481).

1. Which has more saturated fats, animals or plants?
2. How does industry cause an oil become more saturated (process)?
3. What does partial hydrogenation achieve?
4. What is the ‘consequence’ of industry using the (reversible) Ni catalyst (what gets formed)?
5. Do naturally occurring unsaturated triglycerides contain cis or trans isomers?
6. A diet high in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ increases the risk of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ disease.

Next, look at the reaction on p. 549 under section B.

1-What type of reaction is shown (it’s one of the types you must know for this test)?

2- Which is more hydrogenated, margarine or ‘shortening’? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Therefore, which is more saturated? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Finally, Look at the reaction at the bottom of p. 483. Draw a line or structural formula of the condensed formula that is shown for the sodium soap.

Looking at your line formula, explain why a detergent might be able to remove nonpolar dirt (such as grease), but also remove polar substances.