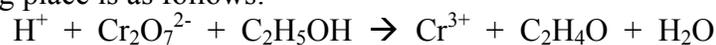


5. Sucrose is $C_{12}H_{22}O_{11}$. How many water molecules are contained in each molecule of sucrose? Why do you suppose they call sucrose a carbohydrate?

6. Sulfuric acid is well known for its ability to suck water out of things. Write a reaction for what happened to the sucrose.

7. The reaction taking place is as follows:



Break the reaction down into two half reactions and balance the reaction.

8. The alcohol that you are using is 95%. A typical "hard" (whiskey, vodka, gin, etc.) liquor is 90 - 100 proof (i.e., 47.5%). If you used 2 drops of 95% alcohol, how many drops of hard liquor would be required? How many drops of beer that is 5% alcohol or wine that is 12% would be required? Show your calculations.