

## Prelab 1 (Experiment 3 in Girolami)

1. In your own words, briefly describe a zeolite.
  
2. Carefully inspect Figure 3-1.
  - a. What is the difference between Linde type A and Faujiste zeolites?
  
  - b. Which of these will we be preparing during this experiment?
  
  - c. Suggest a reason that this type of zeolite is the most ideal molecular sieve.
  
3. Write the balanced chemical equation that will occur during the cobalt exchange reaction? Assume ' $n$ ' is the approximate value your lab manual suggests.
  
4. Inspect Figure 2-4 in your book.
  - a. Using the 001 peak, calculate the distance between the layers and clearly justify why the difference is observed.
  
  - b. How would  $2\theta$  adjust if the layers were separated by  $10 \text{ \AA}$ ?