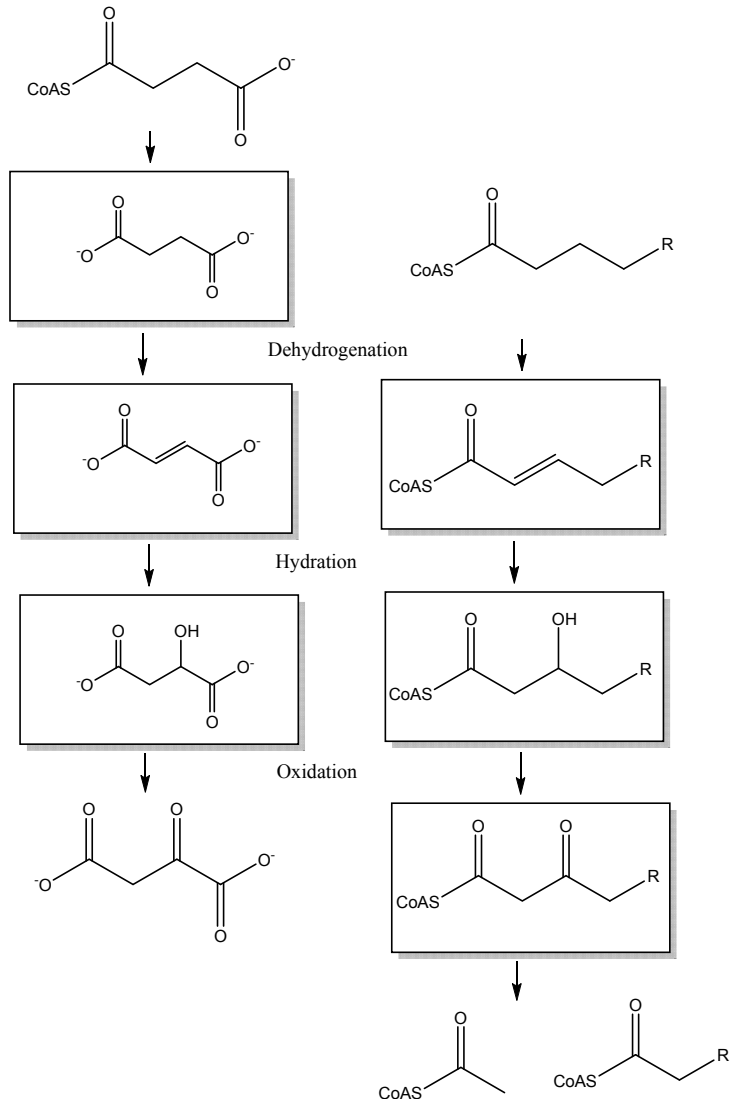


Discussion Exercise 11: Motifs in Metabolic Chemistry

Key

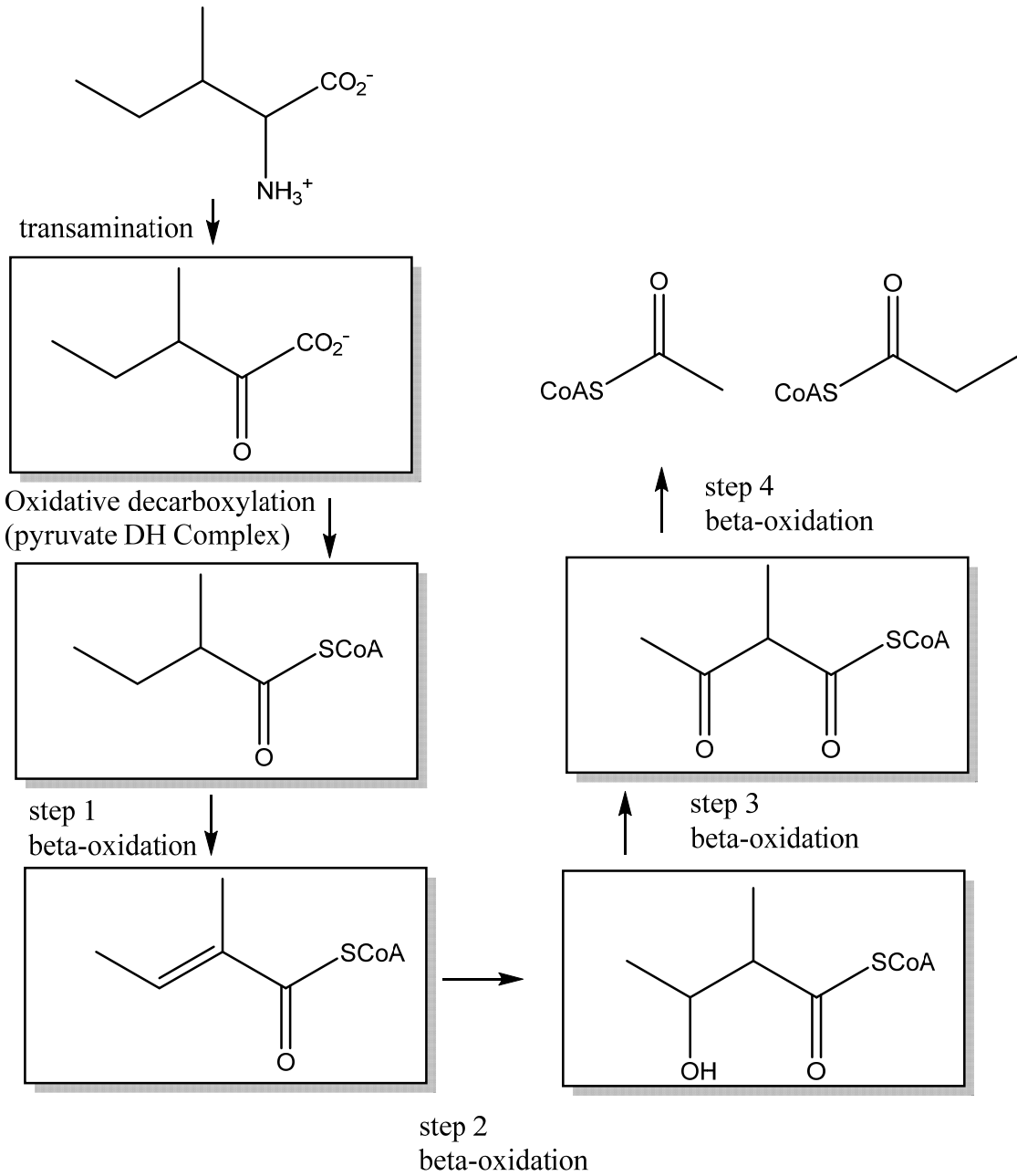
Problem 1: Fill in the blanks for this portion of the citric acid cycle. Fill in the blanks for the intermediates in beta-oxidation. Compare the pathways.



Problem 2. Find one other reaction we have learned that is analogous to

- A. pyruvate carboxylase (anaplerotic reaction)—**propionylCoA carboxylase (odd chain fatty acid degradation); acetyl CoA carboxylase (fatty acid synthesis)**
- B. α -ketoglutarate dehydrogenase—**pyruvate dehydrogenase complex**
- C. aldolase (a retroaldol reaction)—**transaldolase (Pentose Phosphate pathway); citrate lyase (fatty acid synthesis pathway)**

Problem 3. Fill in the intermediates for the catabolism of isoleucine given these pathway hints.



Problem 4. Fill in the intermediates for the catabolism of valine given these pathway hints.

