The Krebs Cycle, Solution

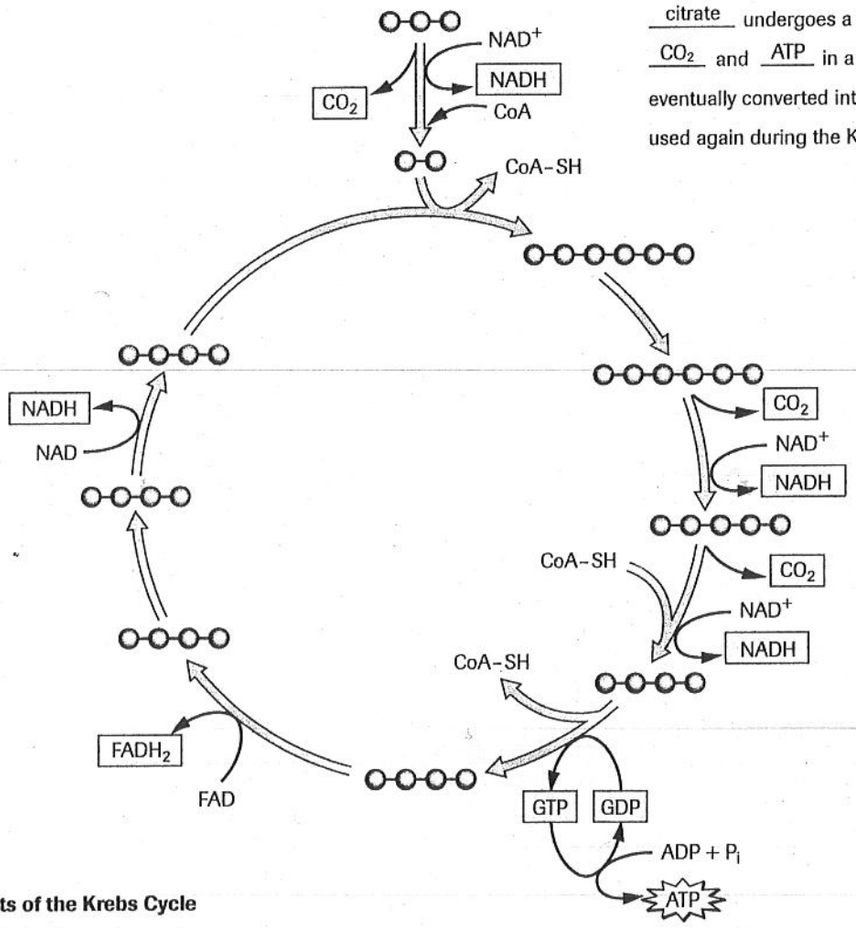
Fill in the molecules created or released during the Krebs cycle. Fill in the blanks of the summaries.

Pyruvate Oxidation

Pyruvate enters the mitochondrion from the cytoplasm. One carbon atom is removed via decarboxylation and hydrogen is removed using NAD^+. Coenzyme A becomes attached to the remaining carbon atoms, creating acetyl-CoA, which then enters the Krebs cycle.

Krebs Cycle

Acetyl-CoA enters the cycle and then combines with oxaloacetate to make the six-carbon compound citrate. During the eight steps of the Krebs cycle, citrate undergoes a number of reactions, releasing CO_2 and ATP in a number of steps. Citrate is eventually converted into oxaloacetate so it can be used again during the Krebs cycle.



Products of the Krebs Cycle

1. CO_2 is released as waste.
2. NADH and $FADH_2$ move to the next stage of cellular respiration.
3. Energy is released in the form of ATP. A glucose molecule produces two molecules of ATP because two molecules of pyruvate are created from each molecule of glucose.