Classification of Enzymes

Oxidoreductases – Catalyze oxidation/reduction reactions; transfer of H and O atoms or electrons from one substance to another. $AH + B \rightarrow A + BH$ (reduced)

E.g.



Transferases – Transfer of a functional group from one substance to another. The group may be methyl-, acyl-, amino- $AB + C \rightarrow A + BC$ or phosphate group.





Lyases – Addition or removal of small groups from substrates (H₂O, CO₂, NH₃) without hydrolysis or oxidation. C-C, C-N, C-O or C-S bonds may be cleaved. $RCOCOOH \rightarrow RCOH + CO_2$



(Although this reaction involves H2O as a product, water is not attacking to break a bond, so it's not a hydrolysis, even in the reverse direction.)







