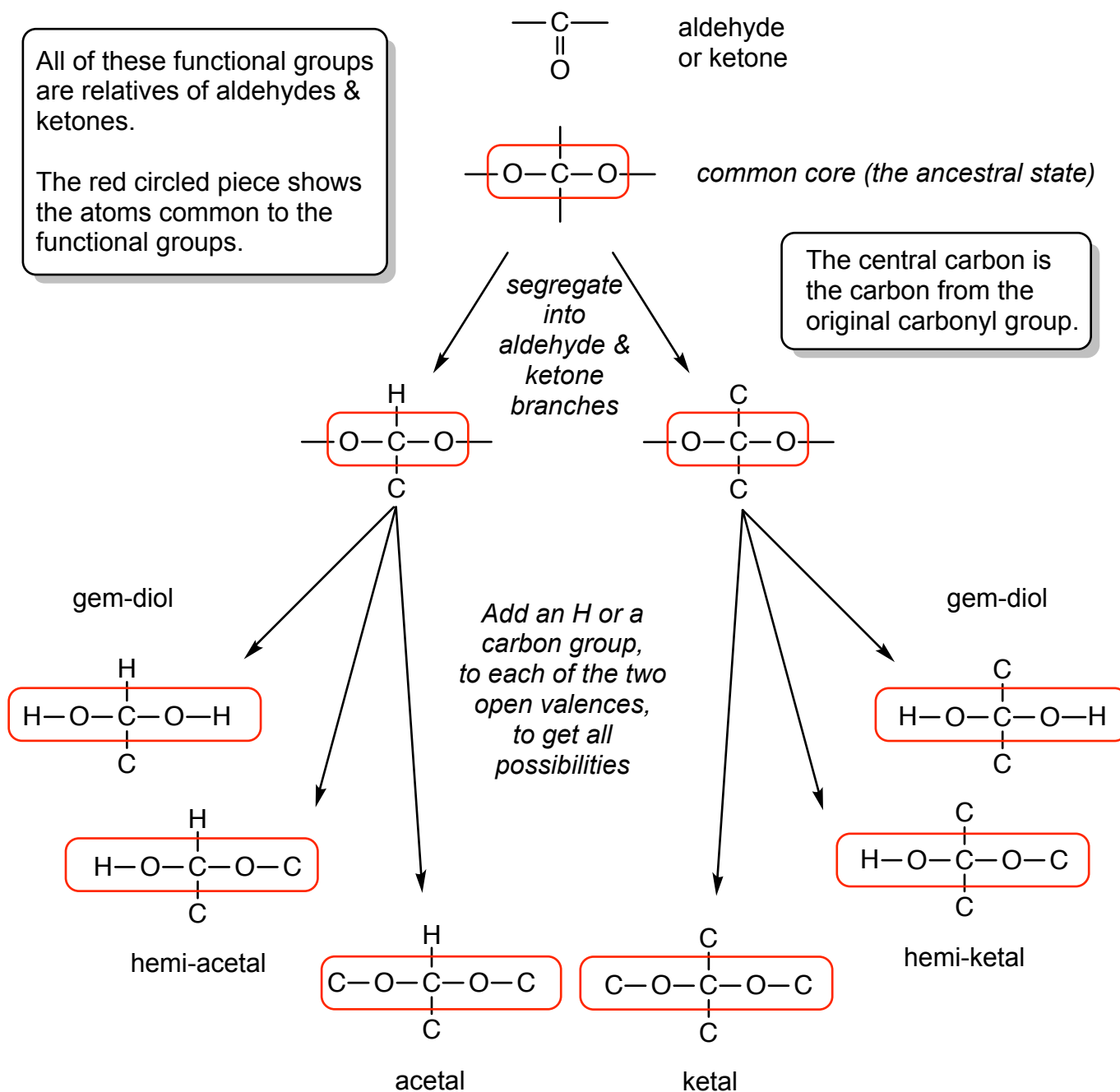


# A Taxonomy of Aldehyde & Ketone Derivatives

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A taxonomy is a classification scheme based upon common characters. In this case it is useful to recognize & remember the structures. It has nothing to do with how you would chemically form these functional groups. In carbohydrates these functional groups typically occur in rings but that is not a requirement.



## Chemical Relationships of Aldehyde & Ketone Derivatives

The taxonomic approach relates structural pieces from simple to more complex without regard for any chemical relationships. This chart shows the chemical relationships, especially how the structures are analogous. So structurally a gem-diol, a hemi-acetal and an acetal all share O-C-O but in terms of reactions, a gem-diol is a dead end. By the way, mechanistically these are all very closely related.

