Cluster algebras were first discovered by Fomin and Zelevinsky in the early 2000’s. Since their inception they have shown to be an integral part of a variety of mathematical areas: including mathematical physics, algebraic geometry, and integrable systems. In this talk we look at the question of finding reddening and maximal green sequences for given cluster algebras.

We will present a method which we have called ”component preserving mutation”. This method allows one to tether mutation sequences of induced subquivers together to form maximal green sequences for the larger quiver. The talk is intended to be example driven and will be a bit of a survey on the types of phenomenon where this methodology is useful. (Received August 20, 2018)