1143-13-327 **Eric Bucher** (buchere1@xavier.edu) and **John Machacek*** (machacek@yorku.ca). *Reddening sequences for Banff quivers and the class $\mathcal{P}$.*

We show that a reddening sequence exists for any quiver which is Banff or in the class $\mathcal{P}$. Our proofs are combinatorial and rely on the direct sum construction for quivers. The other facts needed are that the existence of a reddening sequence is mutation invariant and passes to induced subquivers. Banff quivers define locally acyclic cluster algebras which are known to coincide with their upper cluster algebras. The existence of reddening sequences for these quivers is consistent with a conjectural relationship between the existence of either a maximal green or reddening sequence and a cluster algebra's equality with its upper cluster algebra. Moreover, this completes a verification of the conjecture for Banff quivers. We also prove that a certain subclass of quivers within the class $\mathcal{P}$ define locally acyclic cluster algebras. (Received August 17, 2018)