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Modular representation theory of type A via diagrammatic Soergel bimodules.

We express the multiplicities of modular representation theoretic categories of type A in terms of affine p-KL polynomials of Elias and Williamson. The representation theoretic categories we deal with include the category of rational representations of GL_n and of the quantum group $U_q(\mathfrak{gl}_n)$, representations of (degenerate) cyclotomic Hecke and Schur algebras, and the base field is an algebraically closed field of arbitrary prime characteristics. In order to approach this problem we define Soergel theoretic version of parabolic categories \mathcal{O} in characteristic p . (Received January 08, 2017)