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Bound quiver algebras that are Morita-equivalent to the Temperley-Lieb algebras of type B

Bound quiver algebras are in a sense the simplest (non-semisimple) algebras: their simple modules are one-dimensional, and indecomposable projective and injective ones can be read from their quiver presentation. Finding a path algebra that captures the representation theory of another given algebra is however very difficult. The family of Temperley-Lieb algebras TLb_n of type B (also known as the blob algebras) has a rich representation theory and is related to several important ones in both mathematics and physics: the affine Temperley-Lieb, the cyclotomic affine Hecke and the KLR algebras. Using Elias-Soergel-Williamson diagrammatic calculus we obtain bounded quiver algebras that are Morita-equivalent to the blocks of the algebras TLb_n. This is work in progress with Alexis Leroux-Lapierre and Théo Pinet. The relations on the bound quiver were also checked independently by Philippe Petit using KLR diagrammatics.