1095-05-22   **Daniel Orr** and **Mark Shimozono*** (`mshimo@math.vt.edu`), Department of Mathematics, 460 McBryde Hall, Virginia Tech, Blacksburg, VA 24061. *Combinatorial formulas for various specializations of nonsymmetric Macdonald polynomials.* Preliminary report.

We present combinatorial formulas for various specializations of nonsymmetric Macdonald polynomials. They are obtained by characterizing the terms that survive the specialization of the Ram-Yip formula. The specialization of nonsymmetric Macdonalds at t = infinity (and setting q to 1/q) yield elements whose coefficients at weights are nonnegative polynomials in q. Cherednik and the first author studied this case and conjectured that it describes the PBW filtration of an affine Demazure module. We obtain a combinatorial formula for this case and use it to verify their conjecture about the coefficients of extremal weights. As in the t = 0 specialization studied by Lenart, Naito, Sagaki, Schilling and the second author, the quantum Bruhat graph controls which alcove paths are allowable. In the case q = infinity one obtains the Whittaker functions studied by Brubaker, Bump, and Licata. We obtain a formula for these, but the summands are monomials in X multiplied by powers of t and (1-t). (Received August 01, 2013)