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Hugo Zhou*, 2281 Akers Mill RD, APT 2321, Atlanta, GA 30339. *Homology Concordance and an Infinite Rank Free Subgroup.*

Two knots are homology concordant if they are smoothly concordant in a homology cobordism. The group $\widehat{\mathcal{C}}_{\mathbb{Z}}$ (resp. $\mathcal{C}_{\mathbb{Z}}$) was previously defined as the set of knots in homology spheres that bound homology balls (resp. in S^3), modulo homology concordance. We prove the quotient $\widehat{\mathcal{C}}_{\mathbb{Z}}/\mathcal{C}_{\mathbb{Z}}$ contains an infinite rank subgroup. We construct our family of examples by applying the filtered mapping cone formula to L-space knots, and prove linear independence with the help of the connected knot complex. (Received August 20, 2021)