Classifying spaces from Ore categories with Garside families

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Abstract

I will talk about CW-models of classifying spaces of groups. The basic motivating examples are braid groups, which have a classifying space with finitely many cells, and Thompson's group F, which has a classifying space with finitely many cells in each dimension. I describe a unifying approach to both statements which consists in realizing the group as the fundamental group of a Garside category and constructing the classifying space from the category. This generalizes the statement that every Garside group has a finite classifying space and the construction for various relatives of Thompson's groups.