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Conjugacy separability of generalized free products of certain conjugacy separable groups. (English)

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A group G is said to have unique root property for elements of infinite order if $x^n = y^n$ implies $x = y$ for all $x, y \in G$ of infinite order ($n \in \mathbf{N}$); a subgroup H of G is said to be isolated if $x^n \in H$ implies $x \in H$ for all $x \in G$ ($n \in \mathbf{N}$). Let A, B be finitely generated free-by-finite or nilpotent-by-finite groups. Let $G = A *_H B$ with $H = \langle h \rangle$ cyclic. If A and B both have the unique root property for elements of infinite order or if H is isolated in both A and B then G is conjugacy separable, that is, if $x \not\sim y$ in G then there is a normal subgroup N in G of finite index such that $\overline{x} \not\sim \overline{y}$ in $\overline{G} = G/N$. As a corollary, groups of F-type are conjugacy separable.

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