

Word problem of amalgamated free products of commutative inverse semigroups

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Amalgamated free products of groups have a solvable word problem under nice conditions, for example, the original groups have solvable word problem, the associated subgroups have a solvable membership problem and the isomorphism between the associated subgroups are computable. On the other hand, amalgamated free products of inverse semigroups may not have an solvable word problem even under considerably nice conditions. We discuss algorithmic problems on amalgamated free products of inverse semigroups and show that the word problem for an amalgamated free product of commutative inverse semigroups in the category of inverse semigroups is solvable.