Title: Equidivisible pseudovarieties of semigroups

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We give a complete characterization of pseudovarieties of semigroups whose finitely generated relatively free profinite semigroups are equidivisible. They, besides the pseudovarieties of completely simple semigroups, are precisely the pseudovarieties that are closed under Mal'cev product on the left by the pseudovariety of locally trivial semigroups. A further characterization, which turns out to be instrumental, states that they are the non-completely simple pseudovarieties that are closed under two-sided Karnofsky–Rhodes expansion.

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