Gillespie.jl: Stochastic Simulation Algorithm in Julia

Simon DW Frost

University of Cambridge

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Summary

`Gillespie.jl` (Frost 2016) is a Julia package for stochastic simulation using Gillespie's direct method (sometimes called the Doob-Gillespie algorithm) (Doob 1945; Gillespie 1977) for performing stochastic simulations, an approach widely used in many fields, including systems biology and epidemiology. It borrows the basic interface (although none of the code) from the R library `GillespieSSA` by Mario Pineda-Krch (Pineda-Krch 2008), although `Gillespie.jl` only implements the standard exact method at present, whereas `GillespieSSA` also includes other methods, such as tau-leaping, *etc.*. `Gillespie.jl` is intended to offer performance on par with hand-coded C code, while maintaining a simple but flexible interface.

References

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