

Confirmable workflows in polymake

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The three-dimensional simplex dilated by a factor of three has 910 974 879 regular triangulations. These play an important role in tropical geometry, when classifying tropical cubics and the discriminant of a cubic quaternary form. They were recently enumerated by `mptopcom` together with `polymake`. To produce and manage such and bigger amounts of mathematical data requires a suitable workflow. Publishing this result then raises the question, how can one make this data accessible to other researchers?

We will discuss confirmable workflows within `polymake` alongside the example above. The computation producing these triangulations involves heavy usage of computing clusters, putting all features of `polymake` on trial. Processing the result benefits from several important features of `polymake`, such as storing, porting, and publishing data. The latter involves the `polymake` database `polyDB`.

References

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