

- 1P284 真性粘菌変形体を用いたボロノイ図と Collision-free path の計算
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Computation of Voronoi diagram and collision-free path using the plasmodium of
Physarum polycephalum
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The plasmodium of *Physarum polycephalum* is a very large, unicellular and multinuclear organism whose computational ability is attracting a lot of attention in the field of nature-inspired unconventional computing. To test the computational capability of the organism and its utility for future applications, we have implemented the computation of a Voronoi diagram and a collision-free path in an experimental system using *Physarum* plasmodium. Attractants and repellents for the plasmodium were arranged in the experimental system to induce the plasmodium to form the graphs. The plasmodium solved the complex problem and successfully formed Voronoi diagrams and collision-free paths, demonstrating its highly sophisticated computational ability.