I have to take off on Friday (March 17.)

Abstract Submitted
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Molecular transport induced by plasmonic heating of periodic metal structure HITOMI SAKAI, RYOKO SHIMADA, Japan Women's University — Different molecules in mixed solutions (or gases) can be separated from each other by a large gradient of temperature. This phenomenon, so-called Soret effect, is quite important for molecular separation and condensation. Plasmonic heating induced by photo-excited periodic metal structures would be useful for creating such a large gradient of temperature. In this work, we fabricated the periotic gold (Au) triangle structure to achieve the plasmonic heating and used thermotropic liquid crystal (TLC) to detect the temperature. The temperature gradient of ˜5K/5μm was created under the optical excitation (400 – 440 nm). Then, molecular transport of bromothymol blue (BTB) from a dibutyl phthalate (DBP) solution was examined at the same condition as TLC. Details of the results will be presented on site.

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