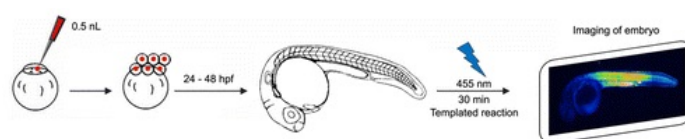


Nucleic Acid Templated Chemical Reaction in a Live VertebrateM. Anzola¹, E. Lindberg¹, N. Winssinger^{1*}¹University of Geneva

Nucleic acid templated reactions are enabled by the hybridization of probe-reagent conjugates resulting in high effective reagent concentration and fast chemical transformation. We have developed a reaction that harnesses cellular microRNA (miRNA) to yield the cleavage of a linker releasing fluorogenic rhodamine in a live vertebrate. The reaction is based on the catalytic photoreduction of an azide by a ruthenium complex. We showed that this system reports specific expression of miRNA in living tissues of a vertebrate.



[1] Laughlin, S.T., Baskin, J.M., Amacher, S.L., Bertozzi, C.R. *Science*. **2008**, 320, 664-667 .

[2] Giraldez, A.J., Cinalli, R.M., Glasner, M.E., Enright, A.J., Thomson, J.M., Baskerville, S., Hammond, S.M., Bartel, D.P., Schier, A.F. *Science*. **2005**, 308, 833-838.

[3] Lu, J., Getz, G., Miska, E.A., Alvarez-Saavedra, E., Lamb, J., Peck, D., Sweet-Cordero, A., Ebert, B.L., Mak, R.H., Ferrnando, A.A., Downing, J.R., Jacks, T., Horvitz, H.R., Golub, T.R. *Nature* **2005**, 435, 834-838.

[4] Holtzer, L., Oleinich, I., Anzola, M., Lindberg, E., Sadhu, K.K., Gonzalez-Gaitan, M., Winssinger, N. *ACS Cent. Sci.* **2016**, 2, 394-400.