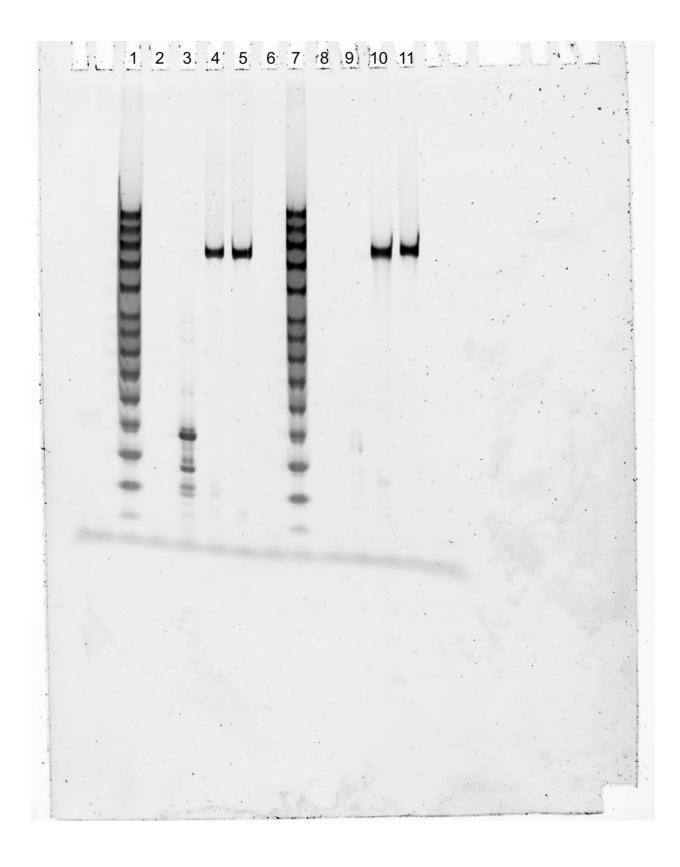
"Programming Cell-Free Biosensors with DNA Strand Displacement Circuits." Jung, et al. (2021)

Image below shows the uncropped, unprocessed urea-PAGE gel image of data shown in **Extended Data 1c** and **Extended Data 1f** unmodified lanes. Lanes 4, 5, 6, 10 and 11 are not shown in the manuscript.

## From left to right:

- 1. Low Molecular ssDNA Ladder (10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100 nt)
- 2. (-) 3' toehold DNA signal gate
- 3. (+) 3' toehold DNA signal gate
- 7. Low Molecular ssDNA Ladder (10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100 nt)
- 8. (-) 5' toehold DNA signal gate
- 9. (+) 5' toehold DNA signal gate



"Programming Cell-Free Biosensors with DNA Strand Displacement Circuits." Jung, et al. (2021)

Image below shows the uncropped, unprocessed urea-PAGE gel image of 2'-O-methylation modification data shown in **Extended Data 1f**. Lanes 1–6, 10 and 11 are not shown in the manuscript. The 3' toehold DNA signal gate without 2'-O-methylation modification data shown are the same gel image used in **Extended Data 1c**.

## From left to right:

- 7. Low Molecular ssDNA Ladder (10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100 nt)
- 8. (-) 3' toehold DNA signal gate with 2'O-methylation modification
- 9. (+) 3' toehold DNA signal gate with 2'O-methylation modification