

**Table S3: Bacterial two-hybrid results**

| No. | <i>N-terminal T25</i> | <i>N-terminal T18</i>   | <i>C-terminal T18</i>   | <i>Interaction?</i> |
|-----|-----------------------|-------------------------|-------------------------|---------------------|
| 1   | Leucine Zipper        | Leucine Zipper          |                         | +                   |
| 2   | None                  |                         | None                    | -                   |
| 3   | None                  |                         | YfiN-truncated          | -                   |
| 4   | None                  | YfiN-truncated          |                         | -                   |
| 5   | None                  |                         | HAMP domain             | -                   |
| 6   | None                  | HAMP domain             |                         | -                   |
| 7   | None                  |                         | GGDEF domain            | -                   |
| 8   | None                  | GGDEF domain            |                         | -                   |
| 9   | None                  |                         | YfiR-truncated          | -                   |
| 10  | None                  | YfiR-truncated          |                         | -                   |
| 11  | None                  | YfiN-periplasmic domain |                         | -                   |
| 12  | None                  |                         | YfiN-periplasmic domain | -                   |
| 13  | YfiN-truncated        |                         | None                    | -                   |
| 14  | YfiN-truncated        |                         | YfiN-truncated          | +                   |
| 15  | YfiN-truncated        | YfiN-truncated          |                         | +                   |
| 16  | YfiN-truncated        |                         | HAMP domain             | +                   |
| 17  | YfiN-truncated        | HAMP domain             |                         | -                   |
| 18  | YfiN-truncated        |                         | GGDEF domain            | -                   |
| 19  | YfiN-truncated        | GGDEF domain            |                         | -                   |
| 20  | HAMP domain           |                         | None                    | -                   |
| 21  | HAMP domain           |                         | YfiN-truncated          | +                   |
| 22  | HAMP domain           | YfiN-truncated          |                         | -                   |
| 23  | HAMP domain           |                         | HAMP domain             | -                   |
| 24  | HAMP domain           | HAMP domain             |                         | -                   |
| 25  | HAMP domain           |                         | GGDEF domain            | -                   |
| 26  | HAMP domain           | GGDEF domain            |                         | -                   |
| 27  | GGDEF domain          |                         | None                    | -                   |
| 28  | GGDEF domain          |                         | YfiN-truncated          | -                   |
| 29  | GGDEF domain          | YfiN-truncated          |                         | -                   |
| 30  | GGDEF domain          |                         | HAMP domain             | -                   |
| 31  | GGDEF domain          | HAMP domain             |                         | -                   |
| 32  | GGDEF domain          |                         | GGDEF domain            | -                   |
| 33  | GGDEF domain          | GGDEF domain            |                         | -                   |
| 34  | YfiR-truncated        |                         | None                    | -                   |
| 35  | YfiR-truncated        |                         | YfiR-truncated          | -                   |
| 36  | YfiR-truncated        | YfiR-truncated          |                         | +                   |
| 37  | YfiN-truncated        |                         | YfiR-truncated          | -                   |
| 38  | YfiN-truncated        | YfiR-truncated          |                         | -                   |
| 39  | YfiR-truncated        |                         | YfiN-truncated          | -                   |
| 40  | YfiR-truncated        | YfiN-truncated          |                         | -                   |
| 41  | YfiR-truncated        | YfiN-periplasmic domain |                         | -                   |
| 42  | YfiR-truncated        |                         | YfiN-periplasmic domain | -                   |