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Flagellation of *Pseudomonas aeruginosa* in newly divided cells

KUN ZHAO, Tianjin University, CALVIN LEE, JAIME ANDA, GERARD WONG, University of California, Los Angeles — For monotrichous bacteria, *Pseudomonas aeruginosa*, after cell division, one daughter cell inherits the old flagellum from its mother cell, and the other grows a new flagellum during or after cell division. It had been shown that the new flagellum grows at the distal pole of the dividing cell when the two daughter cells haven't completely separated. However, for those daughter cells who grow new flagella after division, it still remains unknown at which pole the new flagellum will grow. Here, by combining our newly developed bacteria family tree tracking techniques with genetic manipulation method, we showed that for the daughter cell who did not inherit the old flagellum, a new flagellum has about 90% chances to grow at the newly formed pole. We proposed a model for flagellation of *P. aeruginosa*.

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