SUPPLEMENTARY INFORMATION

Mass spectrometric characterization of oligomers in *Pseudomonas aeruginosa* azurin solutions

Lucie Sokolová, a Heather Williamson, b Jan Sýkora, c Martin Hof, c Harry B. Gray, b,* Bernd Brutschy, a,* and Antonín Vlček, Jr. c,d,*

a Institute of Physical and Theoretical Chemistry, Goethe-Universität, Max-von-Laue-Str. 7, 60438 Frankfurt am Main, Germany
b Beckman Institute, California Institute of Technology, Pasadena, CA 91125, USA
c J. Heyrovský Institute of Physical Chemistry, Academy of Sciences of the Czech Republic, Dolejškova 3, CZ-182 23 Prague, Czech Republic
d Queen Mary University of London, School of Biological and Chemical Sciences, Mile End Road, London E1 4NS, United Kingdom

E-mail: a.vlcek@qmul.ac.uk, brutschy@chemie.uni-frankfurt.de, hbgray@caltech.edu

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**Figure S1.** Anion LILBID spectra of Re124 in 30 mM NaCl measured at different laser intensities and two concentrations, 1.1 mM (left column) and 0.6 mM (right column).
**Figure S2.** Anion LILBID spectra of 1.1 mM Re124 in 30 mM NaCl measured at different laser intensities and two time delays, 10 μs (left column) and 1 μs (right column).

**Figure S3.** Anion LILBID spectra of H124 in measured at different laser intensities in pure water (left column) and 20 mM NH₄Pi (right column).
Figure S4. Anion LILBID spectra of 1.1 mM Re124 in 20 mM NaP$_i$ measured at different laser intensities and two delay times, 10 μs (left column) and 1 μs (right column).

Figure S5. Anion LILBID spectra of 0.6 mM H83 (left column) and 0.6 mM Re83 (right column) in 20 mM NH$_4$P$_i$ measured at different laser intensities.
Figure S6. Concentration dependence of Re124 LILBID spectra in 20 mM NaPi at harsh conditions.
Figure S7. Concentration dependence of anion LILBID spectra of H124 in 20 mM NaPi at soft conditions.
Figure S8. Concentration dependence of anion LILBID spectra of H124 in 20 mM NaPi at harsh conditions.

Figure S9. Concentration dependence of anion LILBID spectra of Re126 in 20 mM NaPi at soft conditions.
Figure S10. Concentration dependence of anion LILBID spectra of Re126 in 20 mM NaP$_i$ at harsh conditions.

Figure S11. Concentration dependence of anion LILBID spectra of H126 in 20 mM NaP$_i$ at soft conditions.
Figure S12. Concentration dependence of anion LILBID spectra of H126 in 20 mM NaP$_i$ at harsh conditions.
Figure S13. Concentration dependence of anion LILBID spectra of Re83 in 20 mM NaP$_i$ at soft conditions.
Figure S14. Concentration dependence of anion LILBID spectra of Re83 in 20 mM NaPi at harsh conditions.
Figure S15. Concentration dependence of anion LILBID spectra of H83 in 20 mM NaPi at soft conditions.
Figure S16. Concentration dependence of anion LILBID spectra of H83 in 20 mM NaPi at harsh conditions.
Figure S17. Effects of solution composition on LILBID spectra of H124 at harsh conditions.
Figure S18. LILBID spectra of H83 and Re83 in 20 mM NH₄Pi at soft and harsh conditions. The dashed lines represent expected positions of H83 and Re83 monomers and dimers.
Figure S19. ESI MS spectrum of Re124 measured *ca.* 2 months after the LILBID MS measurement. The same sample was used for both experiments. A 2-year old Re126 sample (kept in solution at ~4 °C) gave a comparable spectrum with no signs of Re-label dissociation.)
**Figure S20.** Stationary emission spectrum of 1.3 mM Re83 in 20 mM NaPi. Excited at 370 nm.

**Figure S21.** Time-dependent emission anisotropy of 1.86 mM Re124 denatured with 4 M Guanine-HCl. Red curve: fit with \( \tau \) values: 3.8±1.0 ns (rise), 26.6±7.2 ns (minor decay), 183±13 ns (major decay).