**Supplemental Methods**

**mRNA recovery from sputum.** We wanted to determine whether the degradation of mRNA in sputum or via our extraction protocol would influence the quantification of *bqsR* and *bqsS* relative to the housekeeping gene, *clpX* (*clpX* was chosen as the length of *oprI* is not optimal for *in vitro* mRNA synthesis). To test this, we *in vitro* synthesized mRNA by amplifying a fragment of each gene using an invitroF primer with a 5’ T7 promoter and an invitroR primer (Table S3). The PCR product was cleaned with ExoSAP-IT, and 2 L of the product was *in vitro* transcribed using the Megascript T7 Kit. In addition to the reaction mixture, we added 2 L recombinant RNasin Ribonuclease Inhibitor (Promega, Madison, WI). The RNA product was treated with 2 L Turbo DNase for one hour to remove any DNA template and was further purified using the Megaclear Kit (Ambion, Foster City, CA) to remove unincorporated reaction components. The quantity of each transcript was determined by Nanodrop spectrophotometry. Assuming the average mass of a ribonucleotide to be 321 Da, the concentration of each transcript was converted to copy numbers/L, diluted to 2 x 1012 copies / L and stored at -80°C. 10 x 1012 copies of each mRNA transcript were then spiked into six 500 L sputum samples (from a *P. aeruginosa-*negative patient), immediately homogenized and resuspended in 750 L of the Trizol reagent. As a control, mRNA was also spiked into Trizol alone to account for degradation as a result of our extraction protocol. mRNA was then extracted and quantified by qRT-PCR using the methods described in the main text. Ratios of *bqsR* and *bqsS* to *clpX* were used to determine potential mRNA degradation biases (Figure S3).

**Supplemental References**

1. Ball JW, Nordstrom DK, McCleskey RB, To T (1999) A new method for the direct determination of dissolved Fe(III) concentration in acid mine waters. *USGS Pub* 1:1-10.
2. Moskowitz SM, Foster JM, Emerson J, Burns JL (2004) Clinically feasible biofilm susceptibility assay for isolates of *Pseudomonas aeruginosa* from patients with cystic fibrosis. *J Clin Microbiol* 42:1915-1922.