A genetically encoded probe for monitoring and detection of iron in real-time

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Fig. S1 SocA sequence alignment analysis: comparing the original sequence with obtained results.

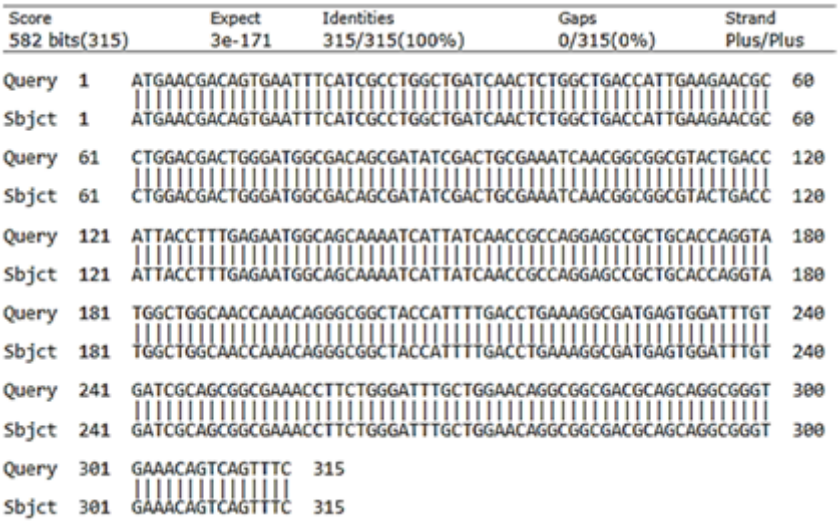


Fig. S2 Designing of nanosensor constructs in different expression vectors (pRSET-B, pYEST-DEST52, pCDNA3.1(-)) to facilitate cellular expression in *E. coli*, *S. cerevisiae*, and HEK-293T cells.

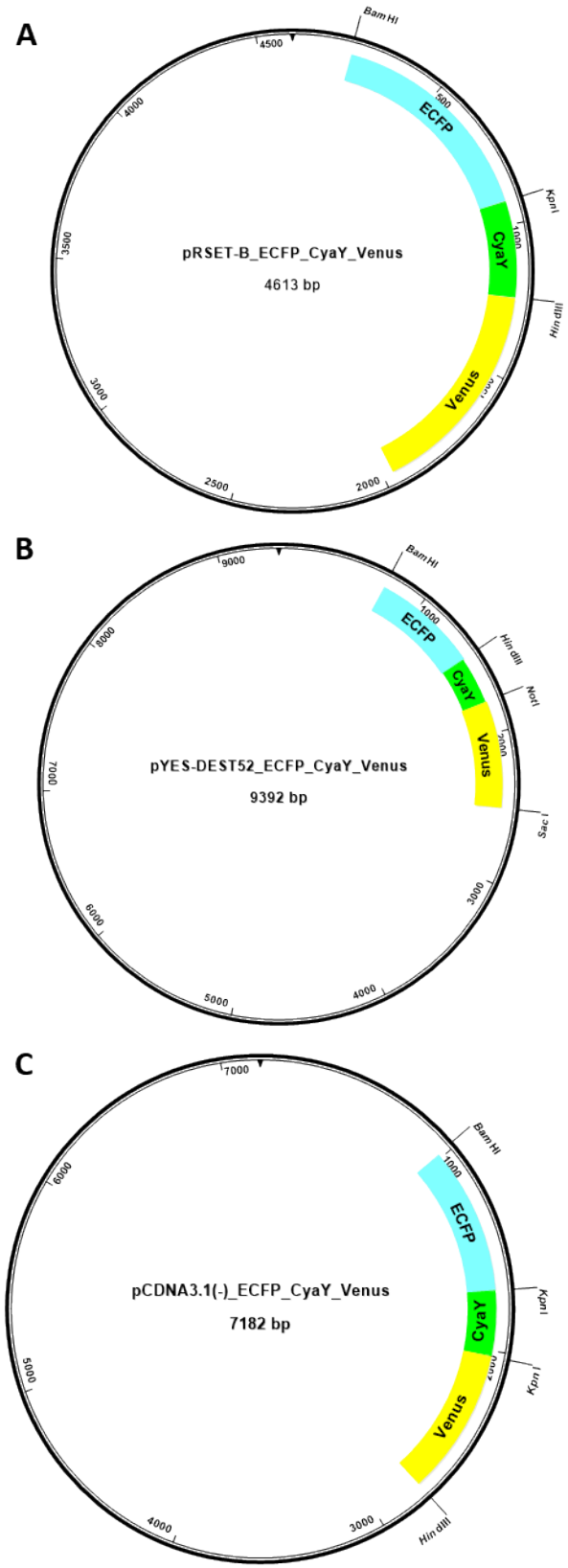


Fig. S3 Electropherograms showing the sequencing results of (A) I17C (B) A10D-I17C and (C) D76H sensor variants. The indicated mutated nucleotides lead to the expression of cysteine, aspartic acid/cysteine, and histidine at positions 17, 10/17, and 76 in the corresponding variants I17C, A10D-I17C, and H76D.

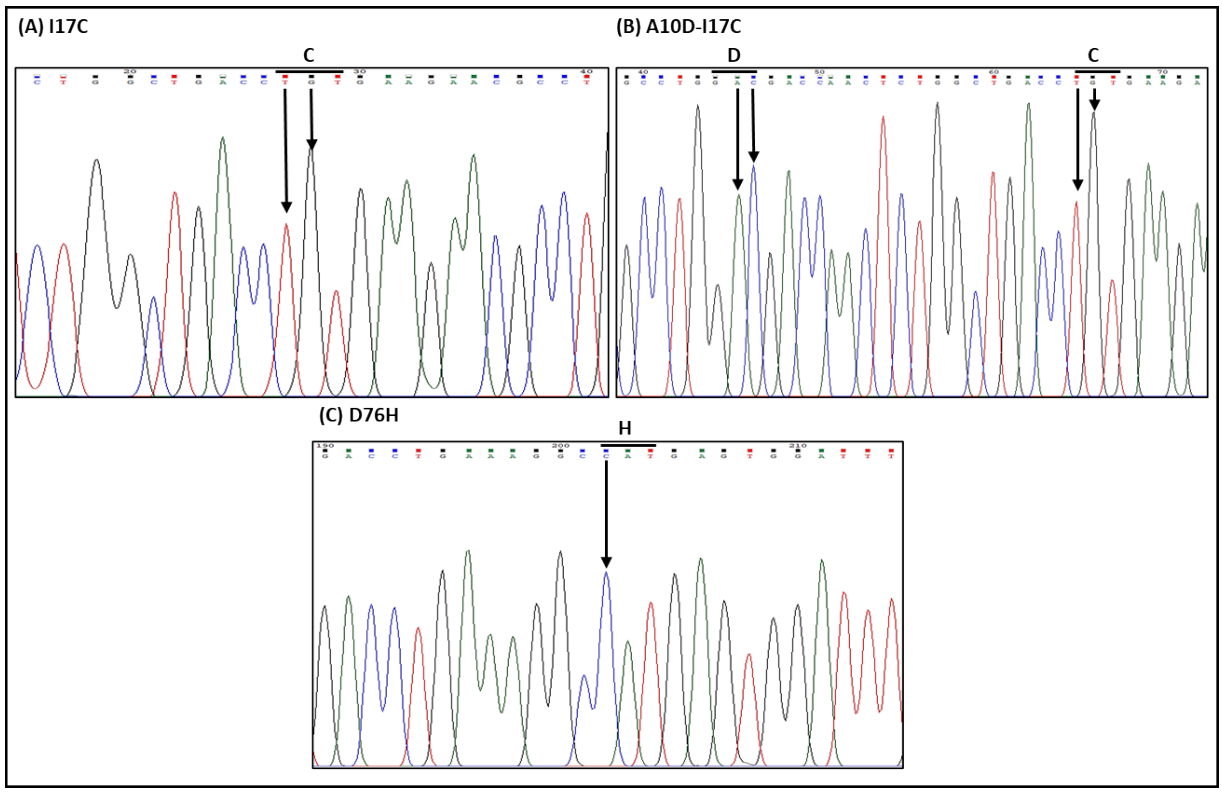


Fig. S4 Confocal microscopy image demonstrating efficient expression of the genetically encoded FeOS in bacterial cells.

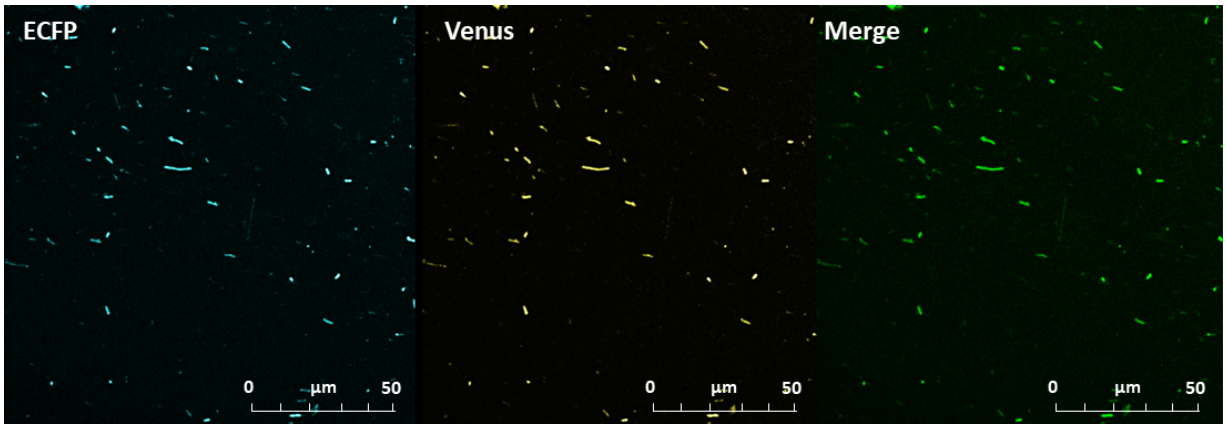
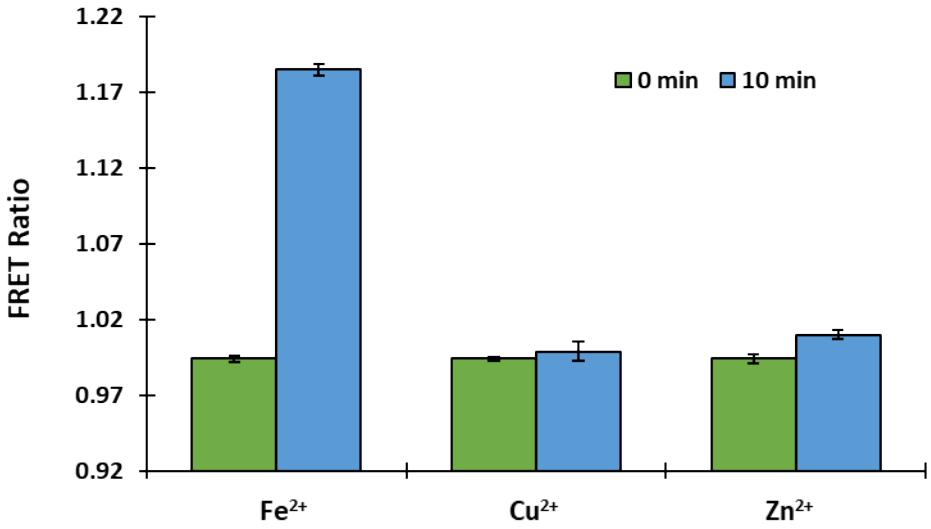


Fig. S5 FRET ratio changes recorded before and after incubation of yeast cell with metal ions for 10 minutes.



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