**Insights into immobilization of heavy metals by microbially induced carbonate precipitation (MICP) using ureolytic-hydrocarbon degrading bacteria**

**Supplementary Data**

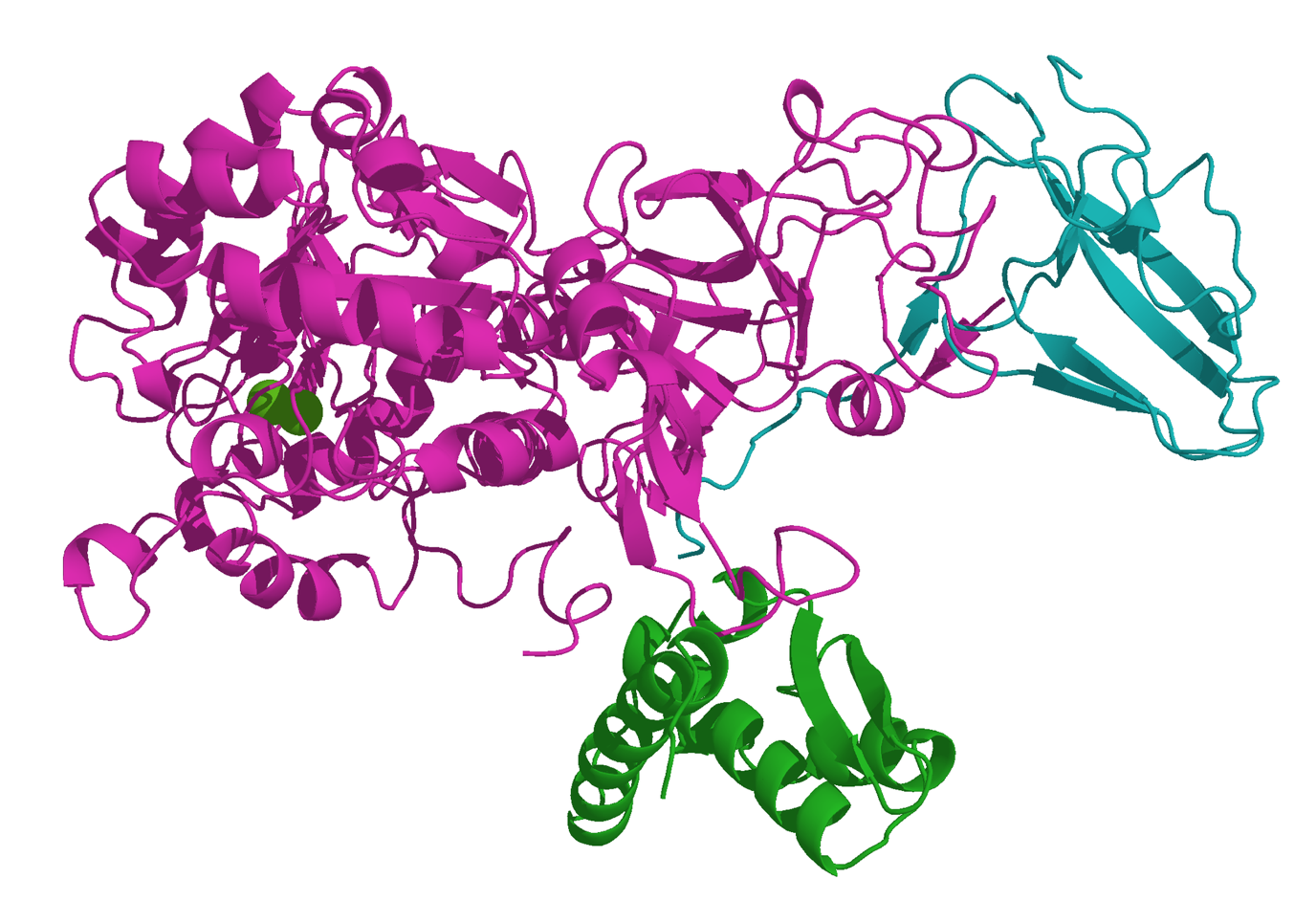
****Figure 1S: *C*rystal structure *Illustration* of urease *enzyme* from Klebsiella aerogenes as reported by (Jabri et al., 1995).

Table 1S: Bacterial strains used in the study.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No. | Code | Strain Name | Isolation site | GenBank Accession No. | Reference: |
|  | QZ8 | *Pseudomonas aeruginosa* | Automotive workshop | CP015377.1 | (Al Disi et al., 2017b) |
|  | QZ9 | *Pseudomonas aeruginosa* | Automotive workshop | JF919950.1 | (Al Disi et al., 2017b) |
|  | QD5 | *Pseudomonas aeruginosa* | Dukhan Dumping site | KY040017.1 | (Al-Kaabi et al., 2018) |
|  | QZ7 | *Bacillus cereus* | Dukhan | DQ120941.1 | (Al-Kaabi et al., 2018) |
|  | Q6.3 | *Bacillus cereus* | Dukhan | MG751339 | (Bibi et al., 2018) |
|  | QD1 | *Bacillus licheniformis* | AlZubara | LN995452.1 | (Al-Kaabi et al., 2020) |
|  | QD41 | *Bacillus licheniformis* | Dohat Faishakh Sabkha | KY363571 | (Al Disi et al., 2017a) |
|  | QD2 | *Bacillus subtilis* | Dukhan Dumping site | MH071337.1 | (Al-Kaabi et al., 2018) |
|  | QD53 | *Bacillus subtilis* | Dukhan | MALDI-TOF MS Score (1.95) | (Alsayegh et al. 2021) |
|  | QZ2 | *Providencia rettgeri* | AlZubara | CP027418.1 | (Al-Kaabi et al., 2020) |
|  | QZ5 | *Stenotrophomonas sp.* | GTL water | KX036541.1 | (Surkatti et al., 2021) |

Table 2S:Arbitrary urease activity (AUA) and its specific production by each bacterial isolate

|  |  |  |  |
| --- | --- | --- | --- |
| Isolate | CFU (106 CFU/mL) | Arbitrary urease activity (AUA/ mL) | Specific production (AUA/107 CFU) |
| QZ8 | 65 ± 3 | 17.3 ± 6 | 2.6 ± 0.8 |
| QZ9 | 75 ± 5 | 18.6 ± 8 | 2.4 ± 0.6 |
| QD5 | 85 ± 4 | 16.5 ± 5 | 1.9 ± 0.2 |
| QZ7 | 33 ± 3 | 11.7 ± 7 | 3.4 ± 0.7 |
| Q6.3 | 17 ± 2 | 11.0 ± 9 | 6.1 ± 0.4 |
| QD1 | 17 ± 1 | 6.5 ± 3 | 3.7 ± 0.3 |
| QD41 | 37 ± 4 | 19.1 ± 14 | 4.9 ± 0.8 |
| QD2 | 39 ± 3 | 18.2 ± 10 | 4.5 ± 0.3 |
| QD53 | 33 ± 1 | 8.4 ± 2 | 2.5 ± 0.3 |
| QZ2 | 29 ± 2 | 23.1 ± 11 | 7.7 ± 0.6 |
| QZ5 | 31 ± 3 | 13.7 ± 9 | 4.2 ± 0.6 |

Chart

Description automatically generated

Figure 2S: Examples of growth curves of the studied bacterial strains using LB (right) and UM medium (left) supplemented with different concentrations of heavy metals (0-10 mM)

# References

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