**Supplemented Data:**

Table 1: Characteristics of *Bacillus cereus* 64-INS

|  |  |
| --- | --- |
| *Morphological Characteristics* | *Nutritional Characteristics* |
| Gram staining | Positive Rods | Maltose | + |
| Spore | + | Lactose | - |
| Motility | + | Sucrose | + |
| Colony color | Cream  | Glucose | + |
| Colony surface | Rough & Dry | Tributyrin | + |
| Colony shape | Irregular | Indole | - |
| *Growth Conditions* | Arabinose | - |
| Temperatures | 28 – 40 oC | Rhamnose | - |
| pH | 4.0 – 9.0 | Melibiose | - |
| Oxygen | Facultative | Starch | + |
| *Physiological Characteristics* | Fructose | + |
| Catalase | + | Citrate | + |
| Oxidase | - | Mannitol | - |
| Gelatinase | + | Sorbitol | - |
| Urease | - | Voges-Proskauer | + |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sample Type | Location | pH | Temperature | Humidity |
| Domestic sludge (DS) | Main sewer Upper Mall, Lahore (Latitude: 31.499069 No, Altitude: 74.291814 Eo) | 6.2±0.1 | 30.4±0.3 | 54.8±0.3 |

Table 2: Sample characteristics

Table 3: Bacteria isolated from Domestic Sludge

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sr. No. | Isolate code | Sudan black B staining  | Nile Blue A staining | Starch hydrolysis test |
| 1 | 06-INS | + | - | + |
| 2 | 08-INS | - | - | + |
| 3 | 10-INS | - | - | - |
| 4 | 11-INS | + | + | ++ |
| 5 | 25-INS | - | - | - |
| 6 | 30-INS | - | - | - |
| 7 | 32-INS | + | - | - |
| 8 | 39-INS | - | - | + |
| 9 | 46-INS | - | - | + |
| 10 | 47-INS | + | - | ++ |
| 11 | 49-INS | + | - | - |
| 12 | 53-INS | - | - | - |
| 13 | 62-INS | - | - | + |
| 14 | 63-INS | - | - | + |
| 15 | 64-INS | + | + | +++ |
| 16 | 69-INS | - | - | + |
| 17 | 70-INS | + | - | - |
| 18 | 73-INS | + | - | - |
| 19 | 80-INS | - | - | - |

PHA

Figure 1: Sudan black B staining for isolate 64-INS (Dark blue bodies inside the cell represent the PHA)