

### Metagenomes used in gene databases

| Name                 | SRA ID     | Number of read pairs | Collection season | Ecosite type  | Soil depth | Reference                  |
|----------------------|------------|----------------------|-------------------|---------------|------------|----------------------------|
| August Plant Surface | SRX2995881 | 138290759            | 2014 - 15         | Plant         | 0 - 5 cm   | Angle et al. 2017          |
| August Mud Surface   | SRX2995880 | 115990605            | 2014 - 15         | Mud flat      | 0 - 5 cm   | Angle et al. 2017          |
| August Open Surface  | SRX2995879 | 115999605            | 2014 - 15         | Water covered | 0 - 5 cm   | Angle et al. 2017          |
| Nov Plant Surface    | SRX2995884 | 98581091             | 2014 - 15         | Plant         | 0 - 5 cm   | Angle et al. 2017          |
| Nov Mud Surface      | SRX2995883 | 208578991            | 2014 - 15         | Mud flat      | 0 - 5 cm   | Angle et al. 2017          |
| Nov Open Surface     | SRX2995882 | 96172864             | 2014 - 15         | Water covered | 0 - 5 cm   | Angle et al. 2017          |
| M3C3D3_v1            | SRX5010711 | 185599683            | 2013              | Mud flat      | 13-23 cm   | this study                 |
| M3C3D3_v2            | SRX5010712 | 199616862            | 2013              | Mud flat      | 13-23 cm   | this study                 |
| M3C3D4               | SRX2839627 | 208687232            | 2013              | Mud flat      | 24- 35 cm  | this study                 |
| O3C3D3               | SRX3527565 | 179954643            | 2013              | Water covered | 13-23 cm   | Narrowe, Spang et al. 2018 |
| O3C3D4               | SRX3527544 | 197763054            | 2013              | Water covered | 24- 35 cm  | Narrowe, Spang et al. 2018 |

### Metatranscriptomes used for transcript mappings

| Name                   | SRA ID     | Number of read pairs | Collection season | Ecosite type | Soil depth | Reference         |
|------------------------|------------|----------------------|-------------------|--------------|------------|-------------------|
| August Plant Surface 1 | SRX3032361 | 29671086             | 2014 - 15         | Plant        | 0 - 5 cm   | Angle et al. 2017 |
| August Plant Surface 2 | SRX3032360 | 32957111             | 2014 - 15         | Plant        | 0 - 5 cm   | Angle et al. 2017 |
| August Plant Surface 3 | SRX3032357 | 29358844             | 2014 - 15         | Plant        | 0 - 5 cm   | Angle et al. 2017 |
| August Plant Deep 1    | SRX3032356 | 78839804             | 2014 - 15         | Plant        | 24- 35 cm  | this study        |
| August Plant Deep 2    | SRX3032368 | 69168871             | 2014 - 15         | Plant        | 24- 35 cm  | this study        |
| August Plant Deep 3    | SRX3032367 | 84025658             | 2014 - 15         | Plant        | 24- 35 cm  | this study        |

### Microcosm 16S rRNA amplicon sequencing

| SampleID        | SRA Accession | Number of read pairs | Sample type   | Timepoint | Replicate | Reference  |
|-----------------|---------------|----------------------|---------------|-----------|-----------|------------|
| Soil_inoc_1     | SRX5733045    | 13579                | Soil inoculum | 0         | 1         | this study |
| Soil_inoc_2     | SRX5733044    | 20215                | Soil inoculum | 0         | 2         | this study |
| Soil_inoc_3     | SRX5733043    | 17587                | Soil inoculum | 0         | 3         | this study |
| Soil_T2_NoSub_1 | SRX5733042    | 13648                | Control       | 2         | 1         | this study |
| Soil_T2_NoSub_2 | SRX5733041    | 18285                | Control       | 2         | 2         | this study |
| Soil_T2_NoSub_3 | SRX5733040    | 8785                 | Control       | 2         | 3         | this study |
| Soil_T2_TMA_1   | SRX5733039    | 11792                | TMA-amended   | 2         | 1         | this study |
| Soil_T2_TMA_2   | SRX5733038    | 13993                | TMA-amended   | 2         | 2         | this study |
| Soil_T2_TMA_3   | SRX5733037    | 12332                | TMA-amended   | 2         | 3         | this study |
| Soil_T3_NoSub_1 | SRX5733036    | 3303                 | Control       | 3         | 1         | this study |
| Soil_T3_NoSub_2 | SRX5733030    | 12729                | Control       | 3         | 2         | this study |
| Soil_T3_NoSub_3 | SRX5733029    | 13589                | Control       | 3         | 3         | this study |
| Soil_T3_TMA_1   | SRX5733028    | 20700                | TMA-amended   | 3         | 1         | this study |
| Soil_T3_TMA_2   | SRX5733027    | 14007                | TMA-amended   | 3         | 2         | this study |
| Soil_T3_TMA_3   | SRX5733034    | 16782                | TMA-amended   | 3         | 3         | this study |
| Soil_TF_NoSub_1 | SRX5733033    | 24773                | Control       | 4         | 1         | this study |
| Soil_TF_NoSub_2 | SRX5733032    | 19016                | Control       | 4         | 2         | this study |
| Soil_TF_NoSub_3 | SRX5733031    | 16537                | Control       | 4         | 3         | this study |
| Soil_TF_TMA_1   | SRX5733026    | 41354                | TMA-amended   | 4         | 1         | this study |
| Soil_TF_TMA_2   | SRX5733025    | 11048                | TMA-amended   | 4         | 2         | this study |
| Soil_TF_TMA_3   | SRX5733035    | 17987                | TMA-amended   | 4         | 3         | this study |