

Figure A1: Taxonomic assignments for the acetogen-level data-set “full_length” at a clustering threshold of 80 %

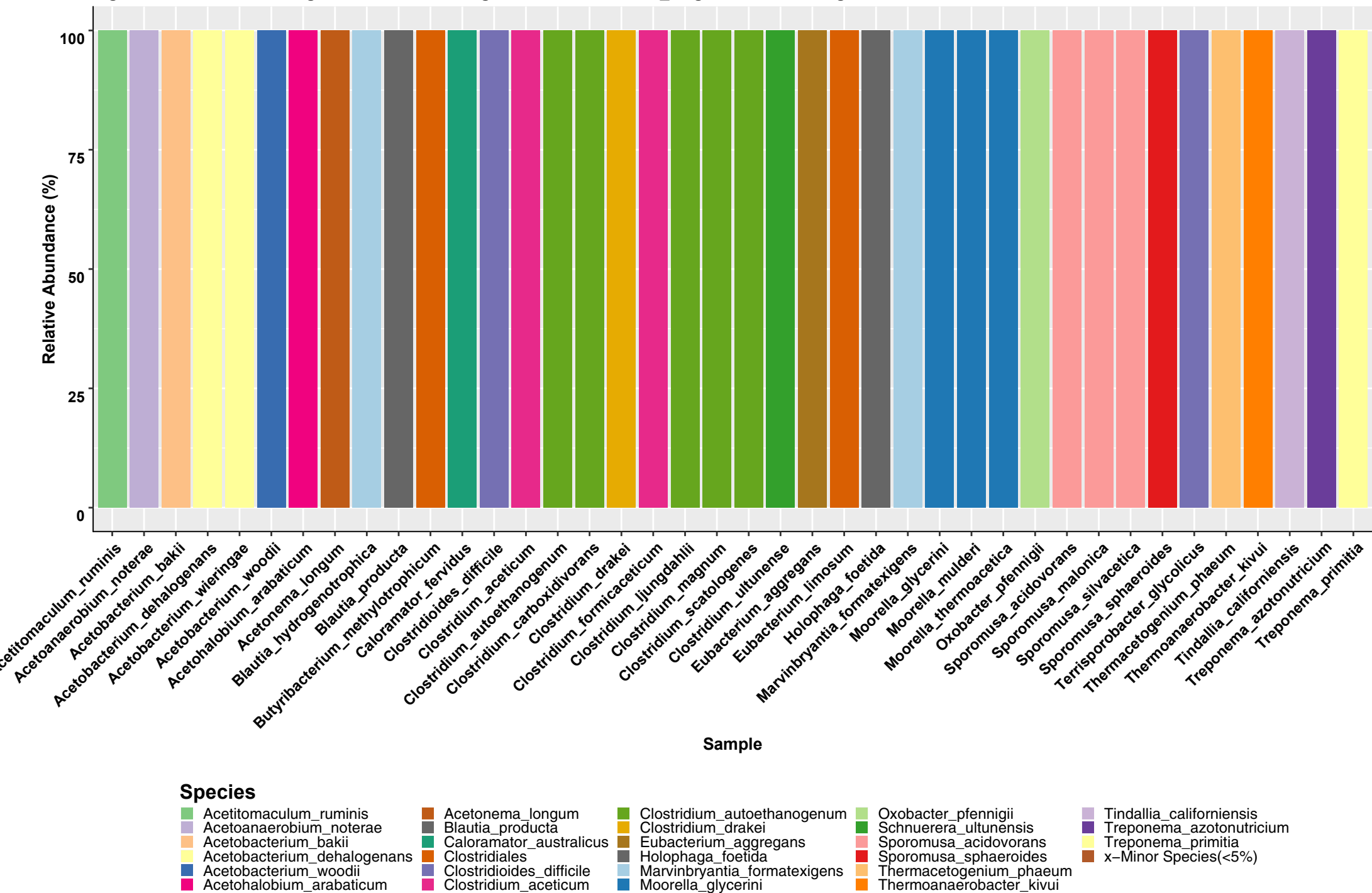
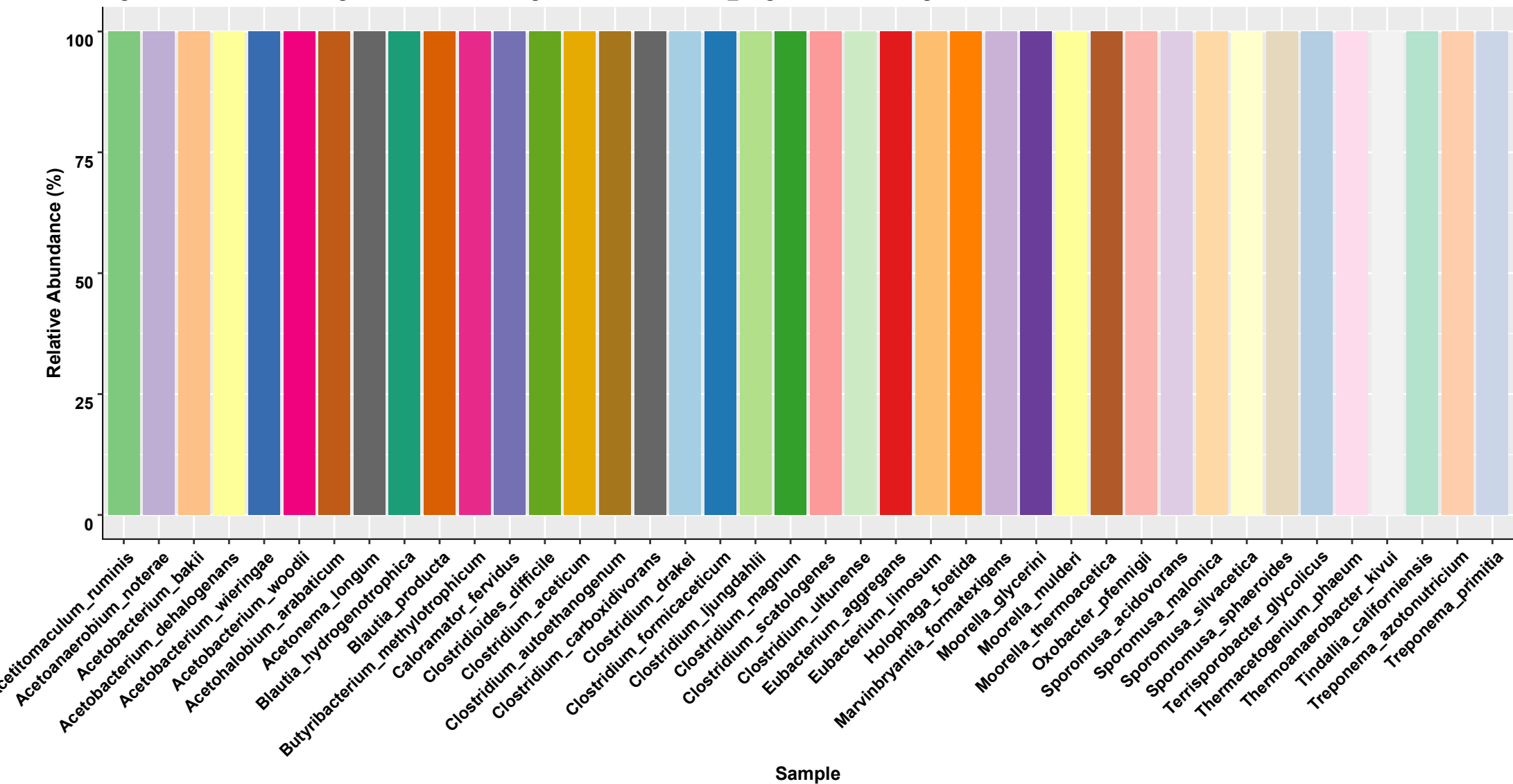


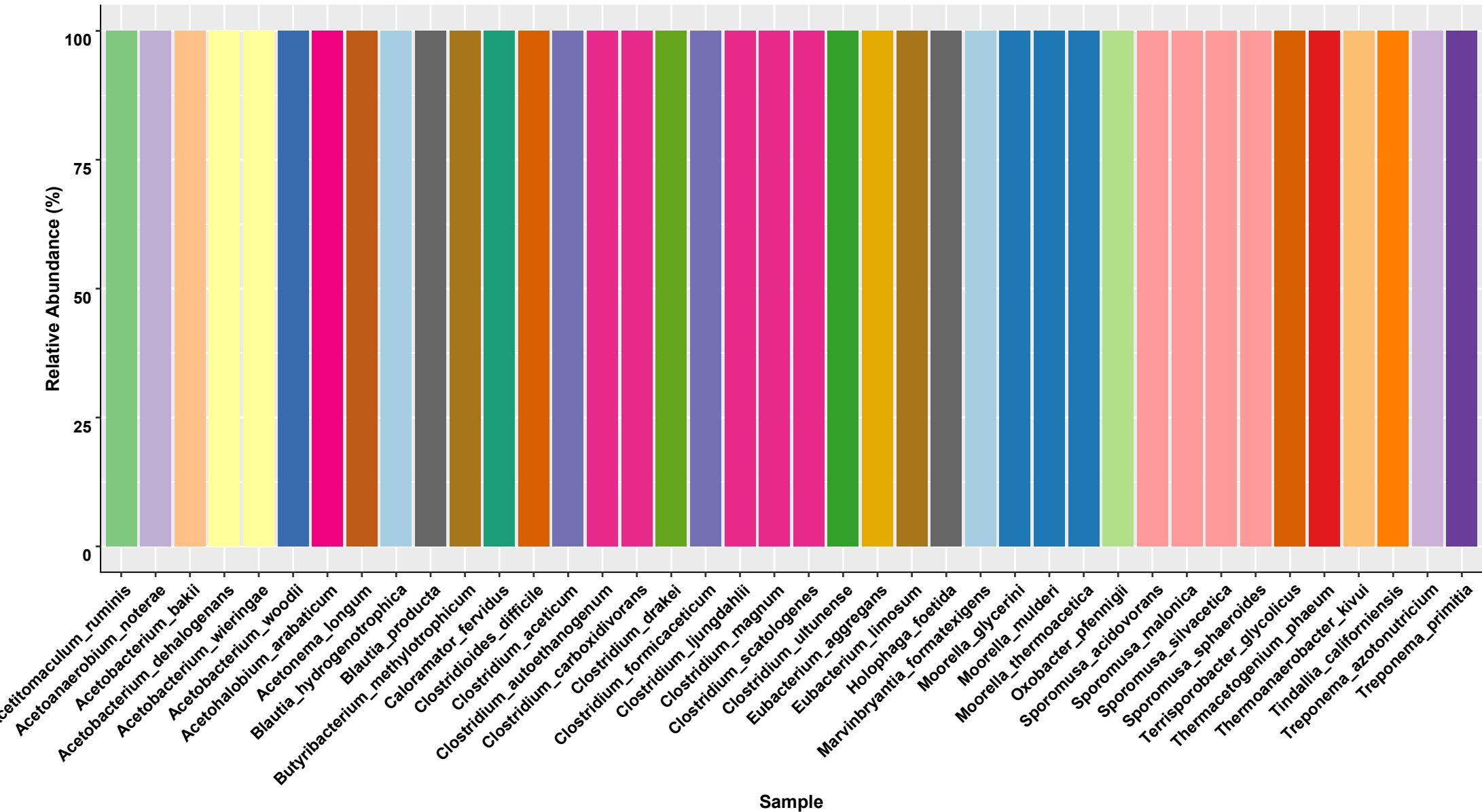
Figure A2: Taxonomic assignments for the acetogen-level data-set “full_length” at a clustering threshold of 100 %



Species

- | | | | | |
|-----------------------------|-----------------------------|------------------------------|-------------------------|--------------------------|
| Acetitomaculum_ruminis | Blautia_producta | Clostridium_ljungdahlii | Moorella_thermoacetica | Thermoanaerobacter_kivui |
| Acetoanaerobium_noterae | Caloramator_australicus | Clostridium_magnum | Oxobacter_pfennigii | Tindallia_californiensis |
| Acetobacterium_bakii | Clostridiales | Clostridium_scatologenes | Peptostreptococcaceae | Treponema_azotonutricium |
| Acetobacterium_dehalogenans | Clostridioides_difficile | Eubacterium_aggregans | Schnuerera_ultunensis | Treponema_primitia |
| Acetobacterium_sp | Clostridium_aceticum | Eubacterium_limosum | Sporomusa_acidovorans | x-Minor Species(<5%) |
| Acetobacterium_woodii | Clostridium_autoethanogenum | Holophaga_foetida | Sporomusa_malonica | |
| Acetohalobium_arabaticum | Clostridium_carboxidivorans | Marvinbryantia_formatexigens | Sporomusa_silvacetica | |
| Acetonema_longum | Clostridium_drakei | Moorella_glycerini | Sporomusa_sphaeroides | |
| Blautia_hydrogenotrophica | Clostridium_formicaceticum | Moorella_mulderi | Thermacetogenium_phaeum | |

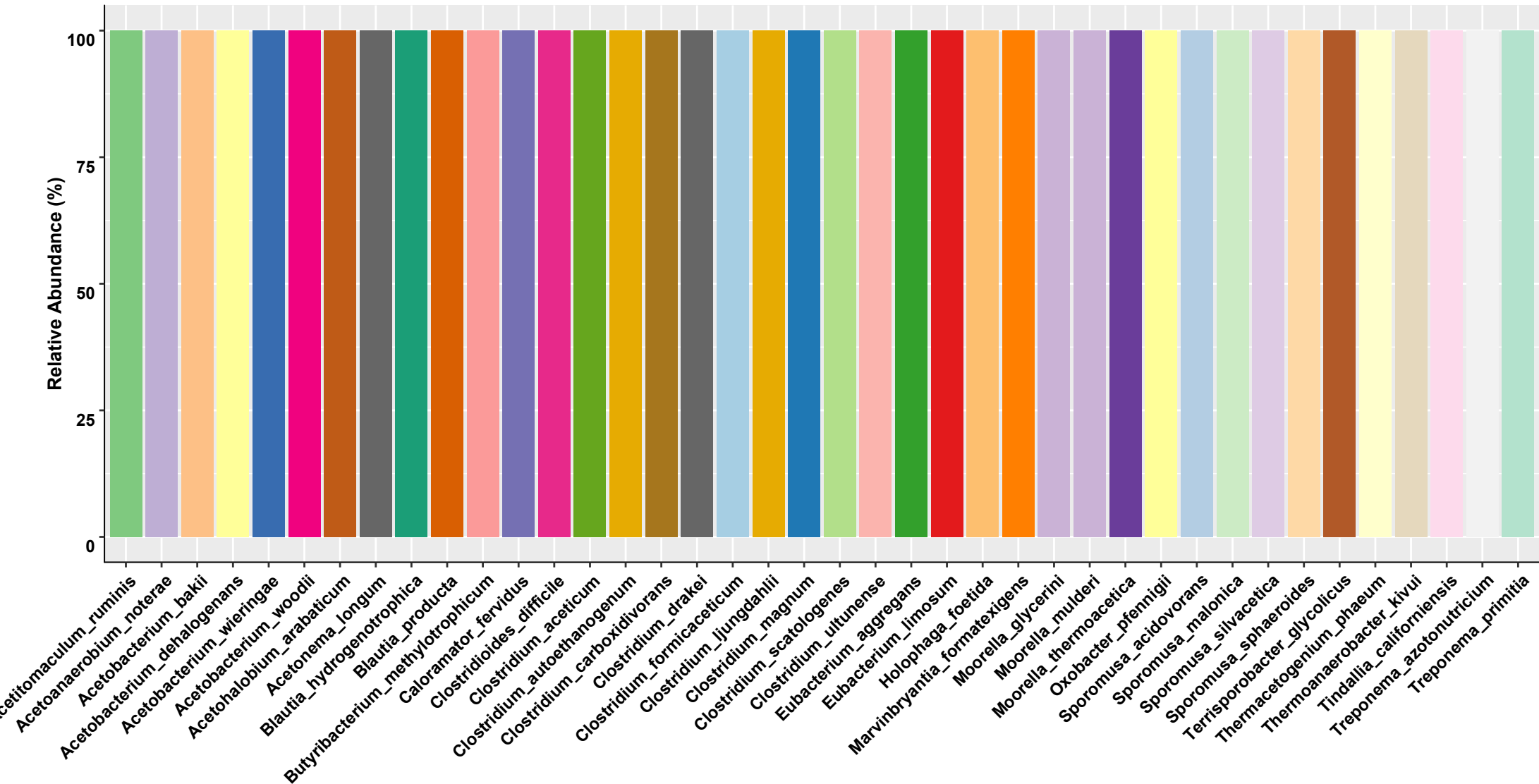
Figure A3: Taxonomic assignments for the acetogen-level data-set “trimmed” at a clustering threshold of 80 %



Species

- | | | | | |
|-----------------------------|-----------------------------|------------------------------|--------------------------|--------------------------|
| Acetitomaculum_ruminis | Acetonema_longum | Clostridium_drakei | Oxobacter_pfennigii | Treponema_azotonutricium |
| Acetoanaerobium_noterae | Blautia_producta | Eubacterium_aggregans | Schnuerera_ultunensis | Treponema_primitia |
| Acetobacterium_bakii | Caloramator_australicus | Eubacterium_callanderi | Sporomusa_acidovorans | |
| Acetobacterium_dehalogenans | Clostridioides_difficile | Holophaga_foetida | Thermacetogenium_phaeum | |
| Acetobacterium_woodii | Clostridium_aceticum | Marvinbryantia_formatexigens | Thermoanaerobacter_kivui | |
| Acetohalobium_arabaticum | Clostridium_autoethanogenum | Moorella_glycerini | Tindallia_magadiensis | |

Figure A4: Taxonomic assignments for the acetogen-level data-set “trimmed” at a clustering threshold of 100 %



Species

- | | | | | |
|-----------------------------|-----------------------------|------------------------------|------------------------|--------------------------|
| Acetitomaculum_ruminis | Blautia_hydrogenotrophica | Clostridium_formicaceticum | Moorella_glycerini | Sporomusa_sphaeroides |
| Acetoanaerobium_noterae | Blautia_producta | Clostridium_magnum | Moorella_thermoacetica | Thermacetogenium_phaeum |
| Acetobacterium_bakii | Caloramator_australicus | Clostridium_scatologenes | Oxobacter_pfennigii | Thermoanaerobacter_kivui |
| Acetobacterium_dehalogenans | Clostridioides_difficile | Eubacterium_aggregans | Peptostreptococcaceae | Tindallia_magadiensis |
| Acetobacterium_sp | Clostridium_aceticum | Eubacterium_callanderi | Schnuerera_ultunensis | Treponema_azotonutricium |
| Acetobacterium_woodii | Clostridium_autoethanogenum | Eubacterium_limosum | Sporomusa_acidovorans | Treponema_primitia |
| Acetohalobium_arabaticum | Clostridium_carboxidivorans | Holophaga_foetida | Sporomusa_malonica | x-Minor Species(<5%) |
| Acetonema_longum | Clostridium_drakei | Marvinbryantia_formatexigens | Sporomusa_silvacetica | |

Figure A5: Taxonomic assignments for the acetogen-level data-set “300” at a clustering threshold of 80 %

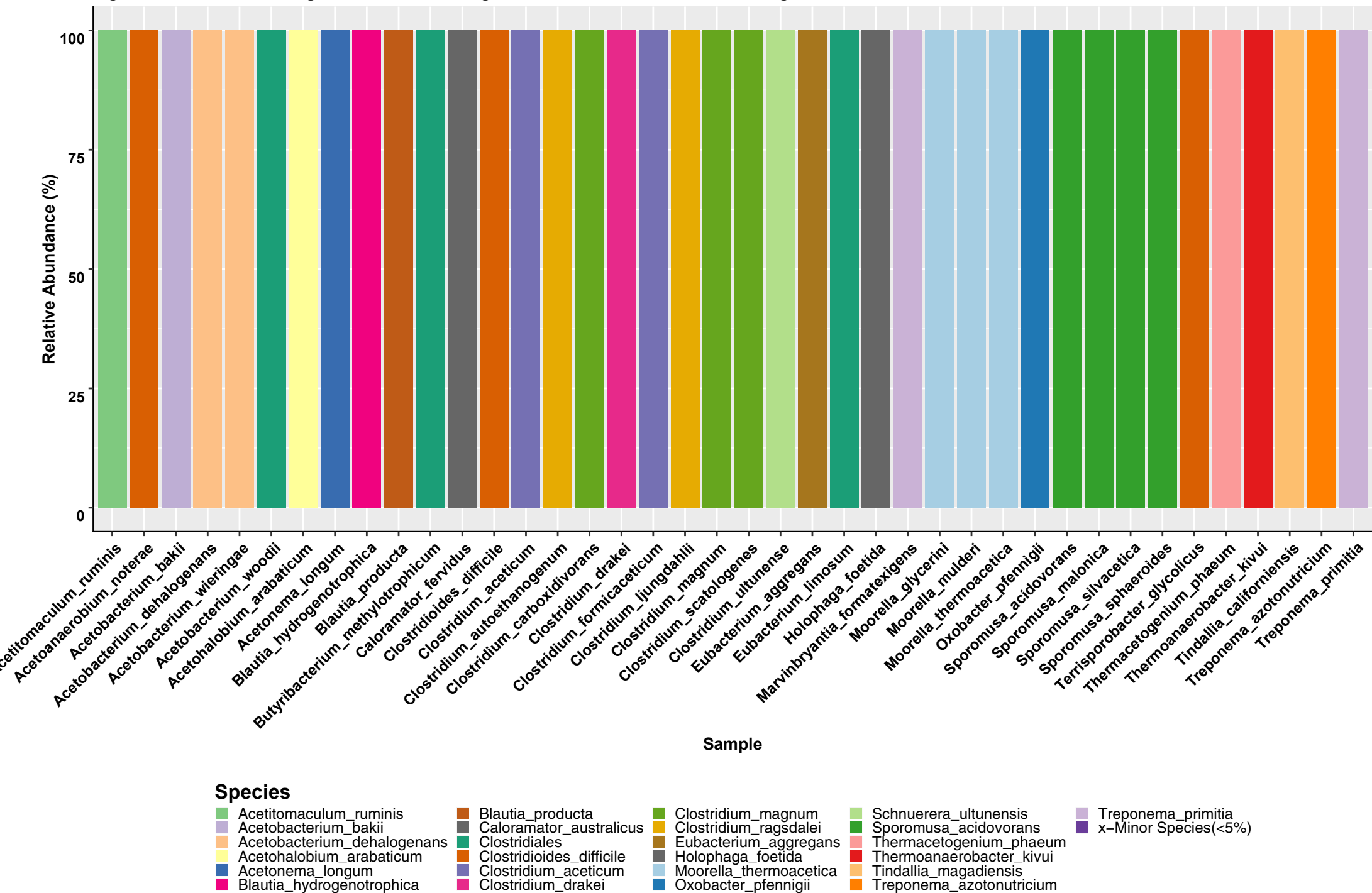
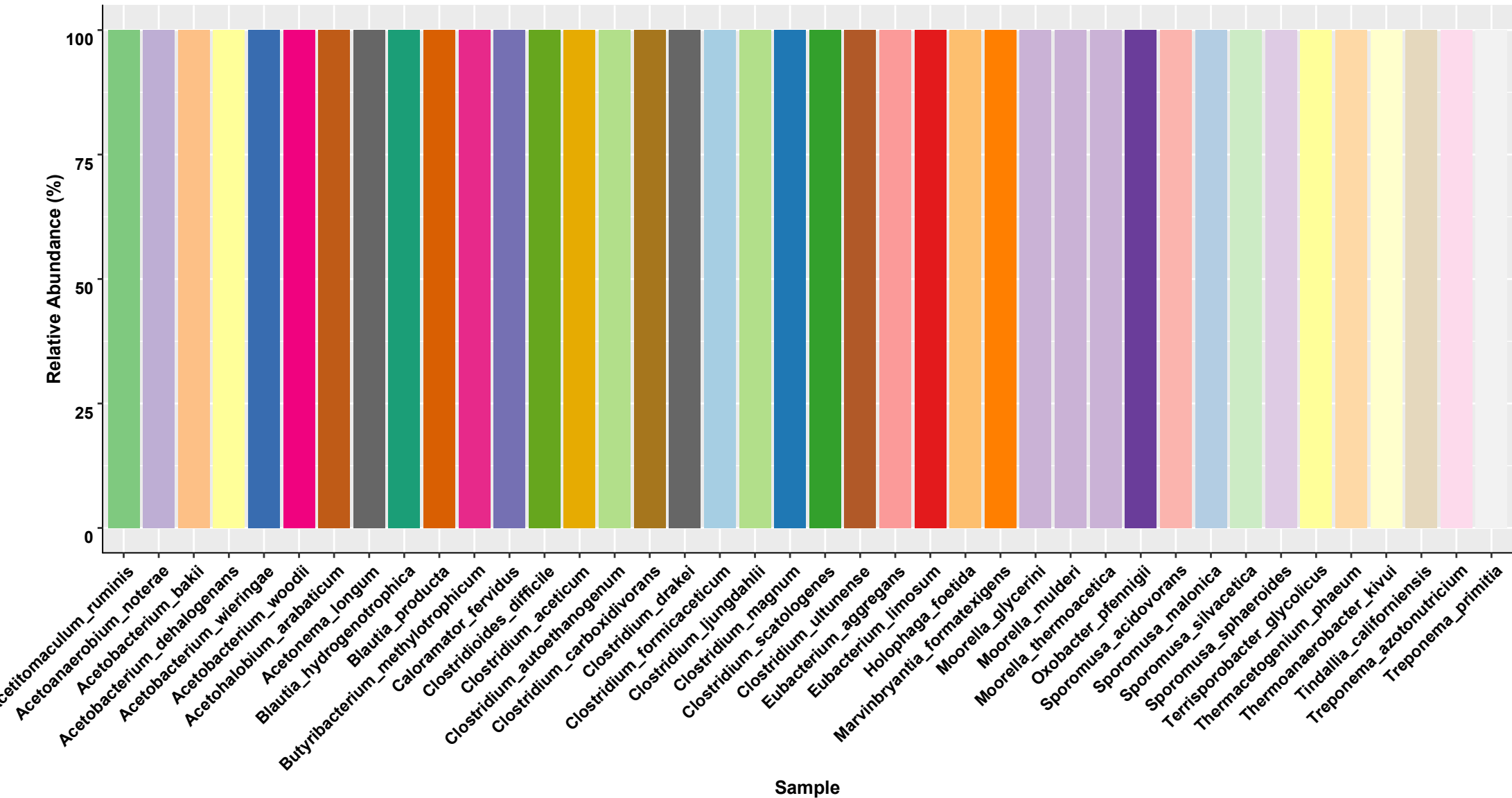


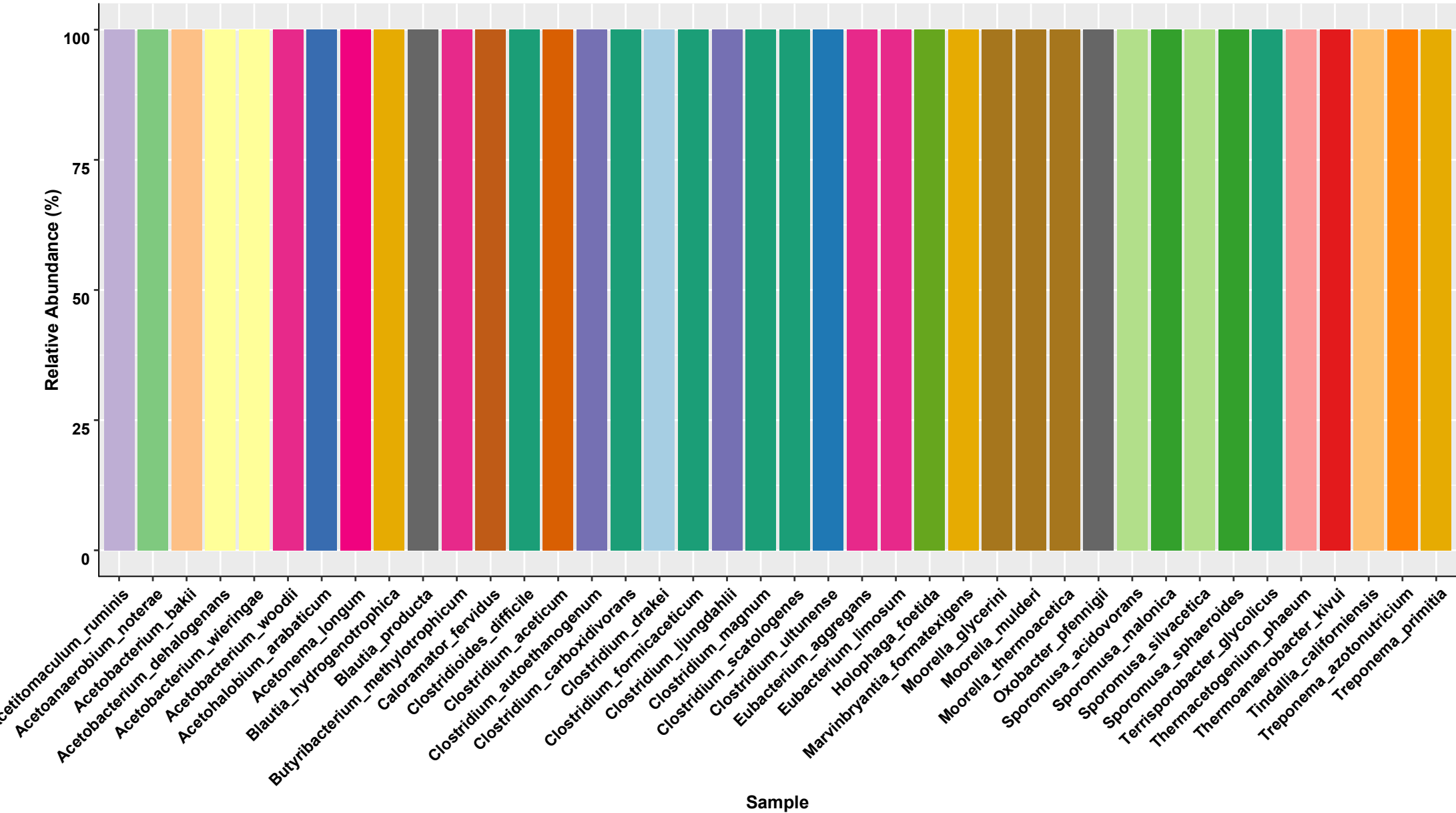
Figure A6: Taxonomic assignments for the acetogen-level data-set “300” at a clustering threshold of 100 %



Species

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|-----------------------------|-----------------------------|------------------------------|------------------------|--------------------------|
| Acetitomaculum_ruminis | Blautia_hydrogenotrophica | Clostridium_formicaceticum | Moorella_thermoacetica | Thermacetogenium_phaeum |
| Acetoanaerobium_noterae | Blautia_producta | Clostridium_magnum | Oxobacter_pfennigii | Thermoanaerobacter_kivui |
| Acetobacterium_bakii | Caloramator_australicus | Clostridium_ragsdalei | Peptostreptococcaceae | Tindallia_magadiensis |
| Acetobacterium_dehalogenans | Clostridiales | Clostridium_scatologenes | Schnuerera_ultunensis | Treponema_azotonutricium |
| Acetobacterium_sp | Clostridioides_difficile | Eubacterium_aggregans | Sporomusa_acidovorans | Treponema_primitia |
| Acetobacterium_woodii | Clostridium_aceticum | Eubacterium_limosum | Sporomusa_malonica | x-Minor Species(<5%) |
| Acetohalobium_arabaticum | Clostridium_carboxidivorans | Holophaga_foetida | Sporomusa_silvacetica | |
| Acetonema_longum | Clostridium_drakei | Marvinbryantia_formatexigens | Sporomusa_sphaeroides | |

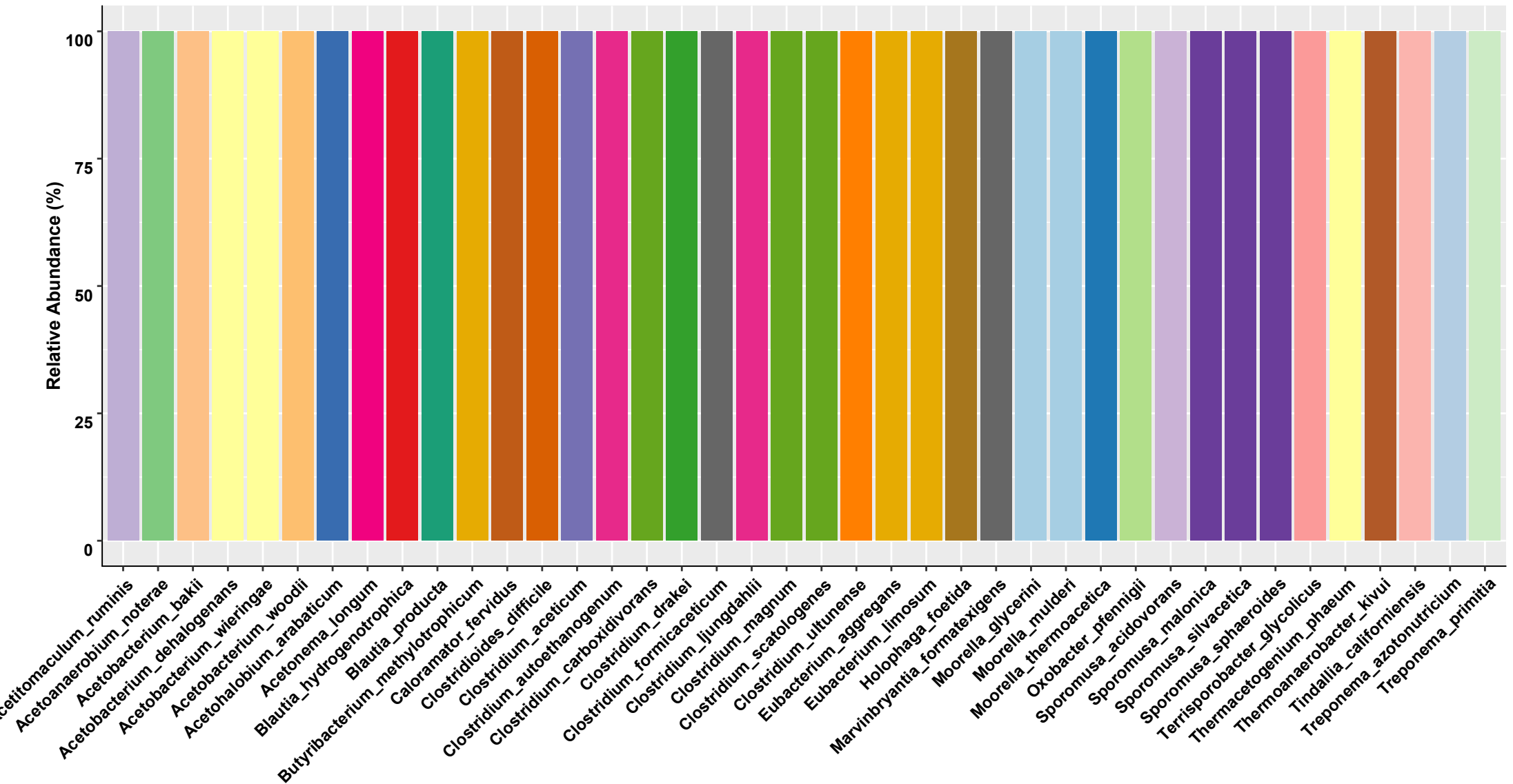
Figure A7: Taxonomic assignments for the acetogen-level data-set “150” at a clustering threshold of 80 %



Species

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|---------------------------|-----------------------------|-----------------------------|------------------------------|--------------------------|
| [Clostridium]_sticklandii | Acetonema_longum | Clostridium_autoethanogenum | Oxobacter_pfennigii | Thermacetogenium_phaeum |
| Acetitomaculum_ruminis | Alkaliphilus_transvaalensis | Eubacterium_callanderi | Paeniclostridium_sordellii | Thermoanaerobacter_kivui |
| Acetobacterium_bakii | Blautia_sp | Holophaga_foetida | Marvinbryantia_formatexigens | Tindallia_magadiensis |
| Acetobacterium_sp | Clostridioides_difficile | Moorella_glycerini | Sporomusa_acidovorans | Treponema_azotonutricium |
| Acetohalobium_arabaticum | Clostridium_aceticum | | Sporomusa_malonica | x-Minor Species(<5%) |

Figure A8: Taxonomic assignments for the acetogen-level data-set “150” at a clustering threshold of 100 %



Sample

Species

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|-----------------------------|-----------------------------|------------------------------|--------------------------|--------------------------|
| [Clostridium]_sticklandii | Anaerovirgula_multivorans | Holophaga_foetida | Robinsoniella_sp | Tindallia_magadiensis |
| Acetitomaculum_ruminis | Blautia_sp | Marvinbryantia_formatexigens | Romboutsia_weinsteinii | Treponema_azotonutricium |
| Acetobacterium_bakii | Clostridioides_difficile | Moorella_glycerini | Schnuerera_ultunensis | Treponema_primitia |
| Acetobacterium_sp | Clostridium_aceticum | Moorella_thermoacetica | Sporomusa_acidovorans | x-Minor Species(<5%) |
| Acetohalobium_arabaticum | Clostridium_autoethanogenum | Oxobacter_pfennigii | Sporomusa_malonica | |
| Acetonema_longum | Clostridium_carboxidivorans | Paenoclostridium_sordellii | Thermacetogenium_phaeum | |
| Alkaliphilus_transvaalensis | Eubacterium_callanderi | Peptostreptococcaceae | Thermoanaerobacter_kivui | |