

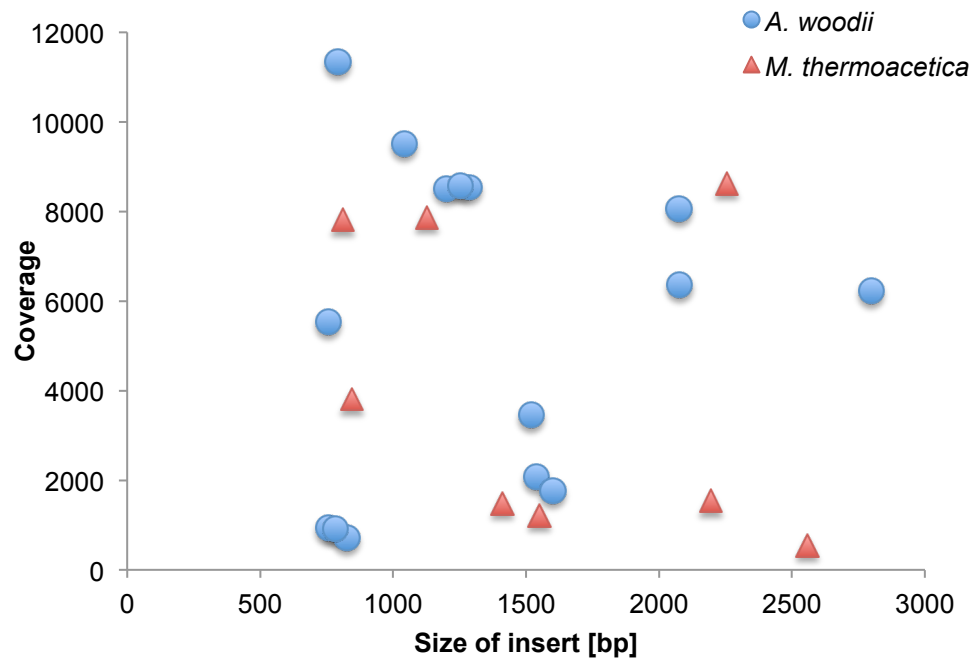
## Supplementary Information

### **Genome-wide systematic identification of methyltransferase recognition and modification patterns**

Jensen et al.

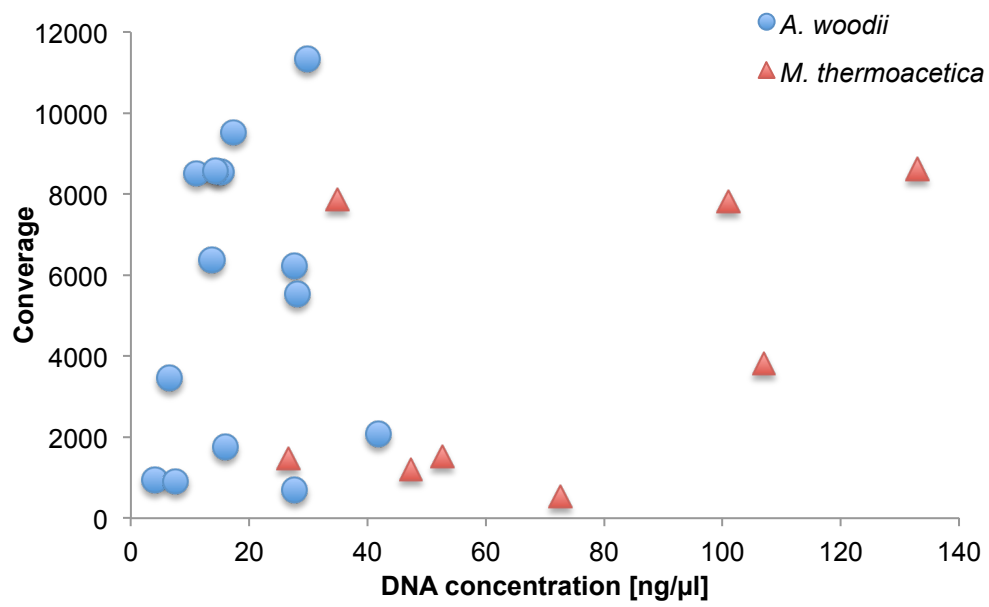
### Supplementary Figure 1

Graph showing the coverage (generated at std. parameters) as a function of the size of the insert (methyltransferase) in basepairs (bp).



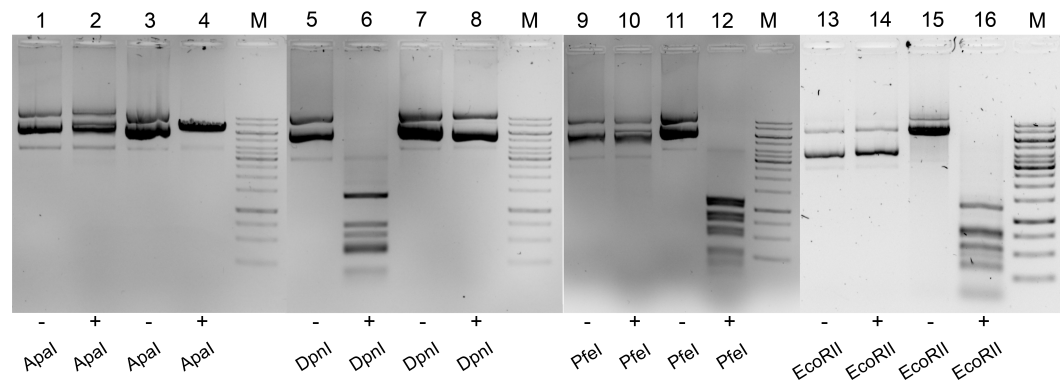
### Supplementary Figure 2

Graph showing the coverage (generated at std. parameters) as a function of the DNA concentration (plasmid) in ng/ $\mu$ l coverage.



### Supplementary Figure 3

Modification verification by restriction enzymes. Plasmid backbone is pRSFduetPA1lacO-1. Lanes marked with M are GeneRuler™ 1 kb DNA ladder (Thermo Scientific). Lanes 1 and 2 are MothHH\_02467, lanes 5 and 6 are MothHH\_01869, lanes 9 and 10 are MothHH\_00029, and lanes 13 and 14 are Awo\_c18590. Lanes 3,4,7,8,11,12,15 and 16 are the negative control *bgaB*.



### Supplementary Table 1

Numbers of restriction digestion sites on the plasmids tested by restriction digestion.

pRSFduetPA1lacO-1 with the following genes inserted	Size (bp)	ApaI GGGCC	DpnI G <sup>m6</sup> ATC	Pfiel GAWTC	EcoRII CCWGG
MothHH_02467	6474	6			
MothHH_01869	5031		14		
MothHH_00029	5346			21	
Awo_c18590	5504				27
<i>bgaB</i> (negative cont.)	6302	1	14	12	14



## Supplementary Figure 4

Sequence of the motif-cassette with motifs for assessing the methyltransferases of *M. thermoacetica*.



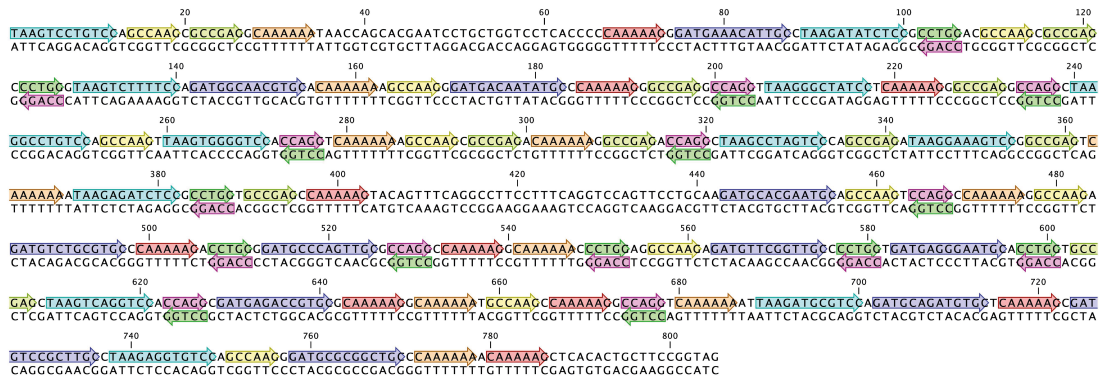
ATCNNNNCTC	
GATC (SATC)	
CATC (SATC)	
GATTC (GAWTC)	
GAATC (GAWTC)	
AACCA	
GAGNNNNGAT	
GGGCCC	
CTCCG	

### Raw sequence

TATCTTCCCCTCCAACCAACTCCGTGAGTCAAGGATGAATCCCACACTCTGATCTAAT  
 CGGGTCCCTCGGATTTCCCATCAAATCTGGGTCTCGTATCGTAATCTCCGGGCCCTGATC  
 TCATCAGAGCGAGTGATCGAATCATATCAGCCACTCACATCGGATCCAACCATAATC  
 AGGCACTCCCATCATATCGTCACTCTGATTCAAATCCACTCCTCCGAGCGGCAGATG  
 AACCACCTCCGTGGGCCCAATCATCTGCTCTAACCAATATCGCGCGCTCTGAGTAAT  
 TGATTAATCTTTTGCTCGCATCCGAGGGCTCGATGGATCAGAGAGTGAGATGAACCA  
 GAATCCTCTTCTCGGAGCGGTTGATGTATCTCTACTCAAATCTGCTTCTCCCATCTT  
 ATCGTCATCTCGAACCACCATCTGAGCAATAGATGAATCGGCCGCTCTGGGCCCGCTC  
 CGGCTCCGATATCGAGCTCTCCGAATCAGATCGCTCCGAGAGACCGAGATTGGGCCCA  
 AACCAAAACCATGAGAGATAGATTCTCCGGTATCCTGTGCTCAAATCGACTTCTCGG  
 AGTTGGAGATGTATCGGGGGCTCCAACCAGCTCCGCCATCATATCGGGTCTCCCATC  
 GCTCCGTTATCAACTGCTCGGATTCTGAATCGGAGTCAAAGATACATCCAATCCTGGT  
 CTCTCTCGAAACCATCTCCGCGGGCCCT -3'

## Supplementary Figure 5

Sequence of the motif cassette for assessing the methyltransferases of *A. woodii*.



GCCAAG (GCCRAG)	Yellow
GCCGAG (GCCRAG)	Light Green
CCAGG (CCWGG)	Pink
CCTGG (CCWGG)	Green
TAAGNNNNNTCC	Light Blue
GATGNNNNNTGC	Purple
CAAAAA (CAAAAAR)	Orange
CAAAAAAG (CAAAAAR)	Red

### Raw sequence

TAAGTCTGTCCAGCCAAGCGCCGAGGCCAAAAATAACCAGCACGAATCCTGCTGGT  
 CCTCACCCCAAAAAGGGATGAAACATTCCTAAGATATCTCCGCTGGACGCCAAGC  
 GCCGAGCCCTGGGTAAGTCTTTTCCAGATGGCAACGTGCACAAAAAAGCCAAGGGA  
 TGACAATATGCCAAAAAGGGCCGAGGCCAGGTTAAGGGCTATCCTCAAAAAGGGCC  
 GAGGCCAGGCTAAGGCCTGTCCAGCCAAGTTAAGTGGGGTCCACCAGGTCAAAAAA  
 GCCAAGCGCCGAGACAAAAAAGGCCGAGACCAGGCTAAGCCTAGTCCCAGCCGAGAT  
 AAGGAAAGTCCGGCCGAGTCAAAAAATAAGAGATCTCCGCCTGGTGCCGAGCCAAA  
 AAGTACAGTTTCAGGCCTTCCTTTCAGGTCCAGTTCCTGCAAGATGCACGAATGCAGC  
 CAAGTCCAGGCCAAAAAAGGCCAAGAGATGTCTGCGTGCCAAAAAAGACCTGGGGAT  
 GCCAGTTGCGCCAGGCCAAAAAGGCCAAAAACCTGGAGGCCAAGAGATGTTTCGGT  
 TGCCCTGGTGATGAGGGAATGCACCTGGTGCCGAGCTAAGTCAGGTCCACCAGGCC  
 ATGAGACCGTGCACAAAAAGGCCAAAAATGCCAAGCCAAAAAGGCCAGGTCAAAAA  
 ATTAAGATGCGTCCAGATGCAGATGTGCTCAAAAAGCGATGTCCGCTTGCCTAAGAG  
 GTGTCCAGCCAAGGGATGCGCGGCTGCCAAAAAACA AAAAAGCTCACACTGCTTCC  
 GGTAG -3'

## Supplementary Table 2

Media composition for cultivating *M. thermoacetica*, according Daniel et al. <sup>62</sup>.

Components	Concentration
$\text{AlK}(\text{SO}_4)_2 \cdot 12\text{H}_2\text{O}$	50 $\mu\text{g/l}$
Biotin	0.1 mg/l
$\text{CaCl}_2 \cdot 2\text{H}_2\text{O}$	50 mg/l
Calcium D-(+)-panthothenate	0.25 mg/l
$\text{Co}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$	0.5 mg/l
$\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$	0.05 mg/l
Cystein-HCl	158 mg/l
$\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$	0.5 mg/l
Folic acid*	0.1 mg/l
Fructose	5 g/l
$\text{H}_3\text{BO}_3$	0.05 mg/l
$\text{KH}_2\text{PO}_4$	500 mg/l
Lipoic acid	0.15 mg/l
$\text{MgCl}_2$	330 mg/l
$\text{MnSO}_4 \cdot \text{H}_2\text{O}$	2.5mg/l
$\text{Na}_2\text{MoO}_4 \cdot 2\text{H}_2\text{O}$	0.05 mg/l
NaCl	400 mg
$\text{NaHCO}_3$	3.5 g/l
$\text{NH}_4\text{Cl}$	400 mg/l
$\text{NiCl}_2 \cdot 6\text{H}_2\text{O}$	0.25 mg/l
Nicotinic acid	0.25 mg/l
Nitrilotriacetate	7.5 mg/l
p-Aminobenzoic acid	0.25 mg
Pyridoxine hydrochloride	0.05 mg/l
Resazurin	1 mg/l
Riboflavin	0.25 mg/l
Thiamine HCL	0.25 mg/l
Vitamin B12 (Cyanocobalamin)	0.25 mg/l
Yeast extract	1 g/l
$\text{ZnCl}_2$	0.5 mg/l