Supplemental table S6. Altered GS-OX activity in the T1 generation FMO<sub>GS-0X4</sub> overexpression lines Glucosinolate (GSL) content in seeds were analyzed. MT: (MS+MT) represents the S-oxygenation activity for the conversion from methylthioalkyl GSL to methylsulfinylalkyl GSL.

MT:(MS+MT) —	T1 35S:: <i>FMO</i> <sub>GS-0X4</sub>		Col-0		
	Mean <sup>a</sup>	SE <sup>b</sup>	Mean	SE	$P^{c}_{gene}$
Propyl GSL(C3)	0.69	0.001	0.68	0.003	NS <sup>d</sup>
Butyl GSL(C4)	0.67	0.001	0.74	0.001	0.01
Pentyl GSL(C5)	0.47	0.002	0.81	0.005	< 0.001
Hexyl GSL(C6)	ND <sup>e</sup>		ND		
Heptyl GSL(C7)	0.33	0.002	0.75	0.011	0.002
Octyl GSL(C8)	0.13	0.004	0.33	0.005	0.02

<sup>a</sup>Mean is the mean value of MT:(MS+MT) of each given group; <sup>b</sup>SE is standard error for the mean value; <sup>c</sup> $P_{gene}$  is the *P* value for the differences between the two genotypes, wild-type versus  $35S::FMO_{GS:OX4}$  overexpression lines; <sup>d</sup>NS indicates non-significant *P* values(P>0.05); <sup>e</sup>ND indicates that the given GSL was not detectable, therefore no statistical analyses was conducted.