

Description of Additional Supplementary Files

File Name: Supplementary Data 1

Description: Intensity-based absolute quantification of CEN.PK2-1D proteins by proteomic analysis.

File Name: Supplementary Data 2

Description: : Available target driver genes for direct genomic integration into *S. cerevisiae* using the CRISPR/Cas9 system.

File Name: Supplementary Data 3

Description: List of gRNA used in this study.

File Name: Supplementary Data 4

Description: Endogenous driver genes in *S. cerevisiae* shown in Fig 3c and their guide sequences.

File Name: Supplementary Data 5

Description: Production of squalene and mogrol in the engineered yeasts.

File Name: Supplementary Data 6

Description: Differentially expressed genes in HCM1 relative to the parent strain CEN.PK2-1D.

File Name: Supplementary Data 7

Description: List of plasmids used in this study.

File Name: Supplementary Data 8

Description: List of strains used in this study.

File Name: Supplementary Data 9

Description: List of primers used in this study.

File Name: Supplementary Data 10

Description: DNA sequences of the enzymes used in the squalene and mogrol pathways engineered in this work.