Table S1. Primers used in this study.

Primer name	Sequences
F_PDC1(stop)_repair	gctaagaacccagttatcttggctgatgcttgttgttccagacacgacgtcaagtaagaa
R_PDC1(stop)_repair	gaattgagtcaagtcaatcaacttcttagtttcttacttgacgtcgtgtctggaacaaca
F_PDC5(stop)_repair	atttatttgaaagattgagccaagtcaactgtaacaccgtcttcggtttgccagtaaact
R_PDC5(stop)_repair	cataaagcttatccaaaagagacaagttaaagtttactggcaaaccgaagacggtgttac
F_PDC6(stop)_repair	ggtgtttatgtgggaacgctgtccaaaccagacgtgaaacaggccgttgagtcgtaagat
R_PDC6(stop)_repair	agagagcaaagcaccgaccgaaaggatcaaatcttacgactcaacggcctgtttcacgtc
F1_SacI_gBlock	tctacagcggccgcgagctctctttgaaaagataatgtat

R2_KpnI_gBlock	TATAGAGCGGCCGCGGTACCAGACATAAAAAACAAAAAAAG
R1_ADH1_gBlock	ACTTACCGTGGGATTCGTAGGATCATTTATCTTTCACTGCG
F2_ADH1_gBlock	ctacgaatcccacggtaagtgttttagagctagaaatagcaagt
F_ADH1(noxE)_repair	GCACAATATTTCAAGCTATACCAAGCATAC
R_ADH1(noxE)_repair	AACCTAAGAGTCACTTTAAAATTTGTATACAC

Table S2. Synthesis of the guideRNA-expressing cassettes used in this study.

	Sequences
gRNA_dPDC1	TCTACAGCGGCCGCGAGCTCTCTTTGAAAAGATAATGTATGATTATGCTTTCACTCATATTTATACAGAAACTTGAT GTTTTCTTTCGAGTATATACAAGGTGATTACATGTACGTTTGAAGTACAACTCTAGATTTTGTAGTGCCCTCTTGGG CTAGCGGTAAAGGTGCGCATTTTTTCACACCCTACAATGTTCTGTTCAAAAGATTTTGGTCAAACGCTGTAGAAG TGAAAGTTGGTGCGCATGTTTCGGCGTTCGAAACTTCTCCGCAGTGAAAGATAAATGATCTTGTTCCAGACACGA CGTCAGTTTTAGAGCTAGAAATAGCAAGTTAAAATAAGGCTAGTCCGTTATCAACTTGAAAAAGTGGCACCGAGT CGGTGGTGCTTTTTTTGTTTTTTATGTCTGGTACCGCGGCCGCTCTATA
gRNA_dPDC5	TCTACAGCGGCCGCGAGCTCTCTTTGAAAAGATAATGTATGATTATGCTTTCACTCATATTTATACAGAAACTTGAT GTTTTCTTTCGAGTATATACAAGGTGATTACATGTACGTTTGAAGTACAACTCTAGATTTTGTAGTGCCCTCTTGGG CTAGCGGTAAAGGTGCGCATTTTTTCACACCCTACAATGTTCTGTTCAAAAGATTTTGGTCAAACGCTGTAGAAG TGAAAGTTGGTGCGCATGTTTCGGCGTTCGAAACTTCTCCGCAGTGAAAGATAAATGATCAACACCGTCTTCGGT

TTGCCGTTTTAGAGCTAGAAATAGCAAGTTAAAATAAGGCTAGTCCGTTATCAACTTGAAAAAGTGGCACCGAGT

CGGTGGTGCTTTTTTTGTTTTTTATGTCTGGTACCGCGGCCGCTCTATA

gRNA_dPDC6	TCTACAGCGGCCGCGAGCTCTCTTTGAAAAGATAATGTATGATTATGCTTTCACTCATATTTATACAGAAACTTGAT GTTTTCTTTCGAGTATATACAAGGTGATTACATGTACGTTTGAAGTACAACTCTAGATTTTGTAGTGCCCTCTTGGG CTAGCGGTAAAGGTGCGCATTTTTTCACACCCTACAATGTTCTGTTCAAAAGATTTTGGTCAAACGCTGTAGAAG TGAAAGTTGGTGCGCATGTTTCGGCGTTCGAAACTTCTCCGCAGTGAAAGATAAATGATCCGTGAAACAGGCCG TTGAGTGTTTTAGAGCTAGAAATAGCAAGTTAAAATAAGGCTAGTCCGTTATCAACTTGAAAAAGTGGCACCGAG TCGGTGGTGCTTTTTTTGTTTTTTATGTCTGGTACCGCGGCCGCTCTATA

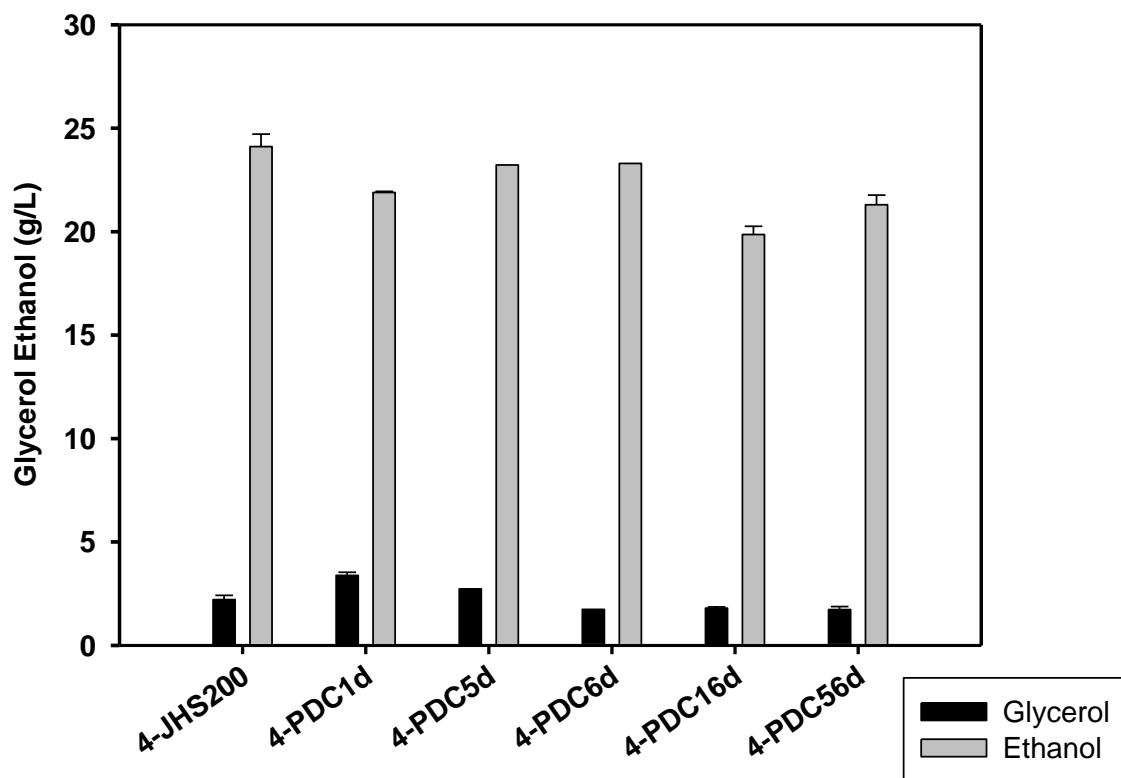**Figure S1. Fermentation of the *PDC* disrupted strains.**

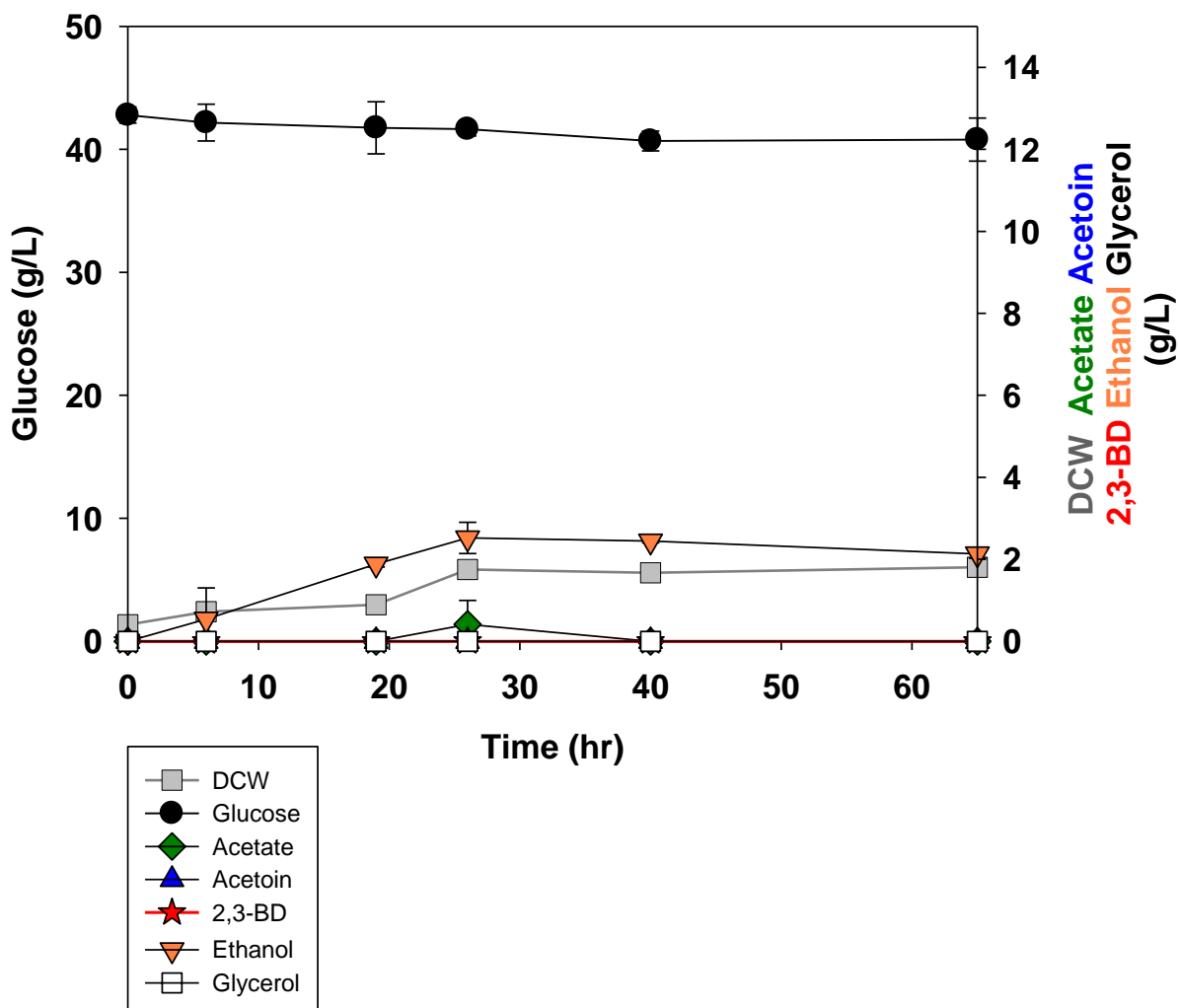**Figure S2. Fermentation profile of the YG01 strain.**

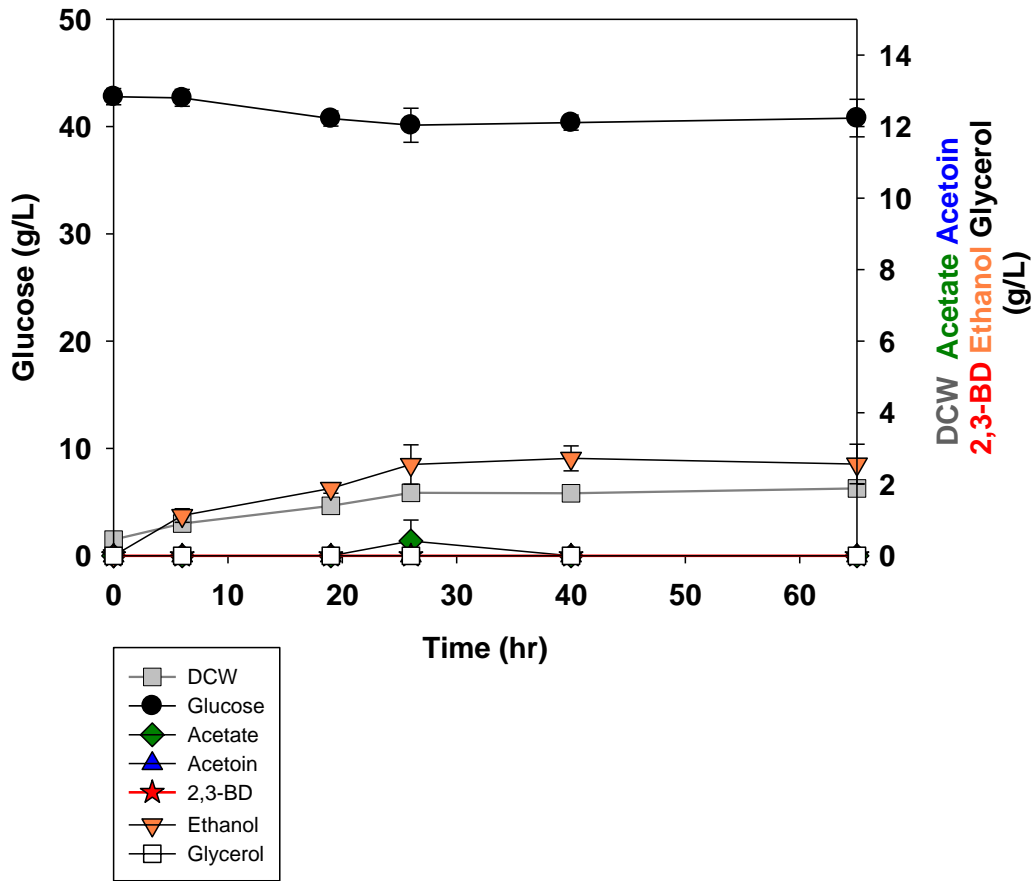**Figure S3. Fermentation profile of the YG02 strain.**

Figure S4. Confirmation of disrupting *PDC 1* and *6* in industrial polyploid *S. cerevisiae* after the several passage of cultivation.