

Table S1. The fold changes of volatile compounds in fermented rice samples (purple boxes indicate newly detected volatile compounds).

No. ¹	Volatile compound	Fold change ²					
		AOR ³	ROR	SCR	SFR	LFR	LPR
<i>Carbohydrates metabolism</i>							
<i>Ethanol fermentation</i>							
v1	Acetaldehyde	0.72	0.30	NC ⁴	NC	NC	NC
v4	Ethyl acetate	32.54	25.09	6.83	1.87	3.90	2.33
v8	Ethanol	247.24	398.16	417.43	5.81	8.73	2.08
v40	Acetic acid	0.06	0.15	0.04	0.10	NC	0.48
<i>Butanediol fermentation</i>							
v11	Butane-2,3-dione	ND ⁵	ND	2.61	6.74	3.84	0.88
v30	3-Hydroxybutan-2-one	1.87	7.35	2.91	7.22	331.69	21.29
v45	Butane-2,3-diol	NC	NC	NC	1.66	0.16	NC
v47	Butane-1,3-diol	0.26	NC	NC	0.20	0.51	NC
<i>Amino acids metabolism</i>							
<i>Valine degradation</i>							
v10	Ethyl 2-methylpropanoate	0.46	0.20	NC	NC	NC	NC
v19	2-Methylpropan-1-ol	2.44	2.36	0.22	0.03	NC	0.03
v46	2-Methylpropanoic acid	0.37	0.00	NC	NC	NC	NC
<i>Isoleucine degradation</i>							
v6	2-Methylbutanal	1.48	0.01	0.07	0.01	NC	NC
v16	Ethyl 2-methylbutanoate	0.11	NC	NC	NC	NC	NC
<i>Leucine degradation</i>							
v7	3-Methylbutanal	334.20	9.40	20.74	10.91	ND	ND
v21	3-Methylbutyl acetate	NC	0.04	NC	NC	NC	NC
v25	3-Methylbutan-1-ol	14.94	39.59	1.30	1.03	0.04	0.08
v50	3-Methylbutanoic acid	1.31	NC	NC	0.32	0.19	NC
<i>Benzenes</i>							
v13	Toluene	ND	1.44	0.81	2.56	0.80	1.08
v20	Ethylbenzene	ND	2.41	ND	2.66	0.90	1.18
v22	1,4-Xylene	NC	0.05	NC	0.05	NC	NC
v28	Styrene	0.92	2.57	1.96	1.84	1.19	1.43
v44	Benzaldehyde	0.47	0.27	ND	0.60	ND	0.62
v48	2-Phenylacetaldehyde	0.22	NC	NC	NC	NC	NC
v49	1-Phenylethanone	NC	0.04	NC	NC	NC	NC
v52	Ethyl 2-phenylacetate	0.12	0.03	NC	NC	NC	NC
v54	2-Phenylethanol	0.02	0.45	0.13	0.04	NC	NC
<i>Sulfur-containing volatile compounds</i>							
v17	(methyldisulfanyl)Methane	0.11	NC	NC	0.02	0.02	0.03

Table S1. *Cont.*

		<i>Phenol</i>					
v56	4-Ethenyl-2-methoxyphenol	0.02	0.02	NC	0.05	0.07	NC
<i>Fatty acids metabolism</i>							
<i>Fatty ketones</i>							
v2	Propan-2-one	4.59	0.45	1.19	1.48	1.39	0.96
v5	Butan-2-one	ND	8.36	2.45	2.39	1.90	1.52
v12	3-Methylpentan-2-one	NC	NC	NC	0.17	NC	NC
v23	5-Methylhexan-2-one	NC	NC	NC	0.02	NC	NC
v27	3-Hydroxy-3-methylbutan-2-one	NC	NC	NC	NC	0.08	NC
v33	6-Methylhept-5-en-2-one	2.82	1.51	1.36	1.88	1.09	1.65
v34	3-Hydroxypentan-2-one	NC	NC	NC	0.06	0.08	NC
v37	Nonan-2-one	NC	NC	NC	0.04	0.01	NC
<i>Fatty alcohols</i>							
v15	Propan-1-ol	0.45	0.09	NC	NC	NC	NC
v24	Butan-1-ol	0.99	0.84	0.37	1.96	0.85	1.50
v29	Pentan-1-ol	0.27	1.03	0.80	0.94	1.63	1.68
v32	3-Methylbut-2-en-1-ol	NC	NC	NC	0.03	0.03	NC
v35	Hexan-1-ol	3.15	3.04	0.68	2.14	4.90	2.88
v36	3-Ethoxypropan-1-ol	NC	0.05	NC	NC	NC	NC
v39	Oct-1-en-3-ol	0.04	0.06	0.05	0.10	0.03	0.04
v42	2-Ethylhexan-1-ol	1.73	1.22	1.38	1.99	1.04	ND
<i>Fatty esters</i>							
v9	Ethyl propanoate	0.24	NC	NC	NC	NC	NC
v14	Ethyl butanoate	0.27	0.25	NC	NC	NC	NC
v55	Ethyl tetradecanoate	NC	0.05	NC	NC	NC	NC
v57	Ethyl hexadecanoate	0.10	0.32	NC	NC	NC	NC
<i>Fatty aldehydes</i>							
v18	Hexanal	0.15	0.19	0.08	0.19	0.05	0.15
v31	Octanal	ND	ND	0.70	1.14	ND	ND
v38	Nonanal	0.69	0.81	0.73	0.73	0.19	0.30
v43	Decanal	0.07	0.04	NC	NC	0.03	0.03
<i>Fatty carboxylic acids</i>							
v53	Hexanoic acid	NC	NC	NC	NC	NC	0.08
<i>Furans</i>							
v3	Oxolane	ND	ND	1.39	ND	0.27	0.49
v26	2-Pentylfuran	1.97	1.57	0.80	1.37	0.65	0.88
v41	Furan-2-carbaldehyde	NC	NC	NC	NC	NC	0.01
<i>Lactone</i>							
v51	5-Ethyloxolan-2-one	NC	0.09	NC	NC	NC	NC

¹ Numbered as in the order of retention indices (RI).

² Log₂ fold changes between control (RICE) and fermented samples (AOR, ROR, SCR, SFR, LPR, and LFR) were obtained. Newly detected volatile compounds were calculated by adding Constance 1 to each value.

³ All abbreviations are shown below; AOR (fermented by *Aspergillus oryzae*), ROR (*Rhizopus oryzae*), SCR (*Sacharomyces cerevisiae*), SFR (*Saccharomycopsis fibuligera*), LFR (*Lactobacillus fermentum*), and LPR (*Lactobacillus plantarum*).

⁴ Not changed

⁵ Not detected