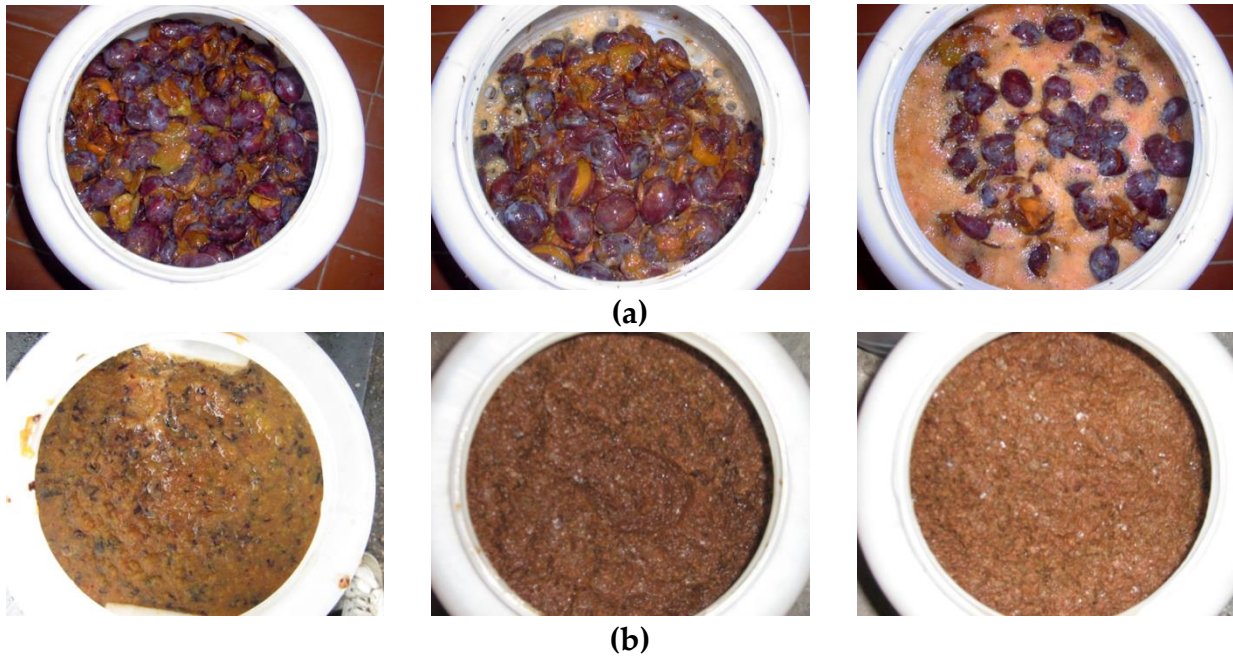


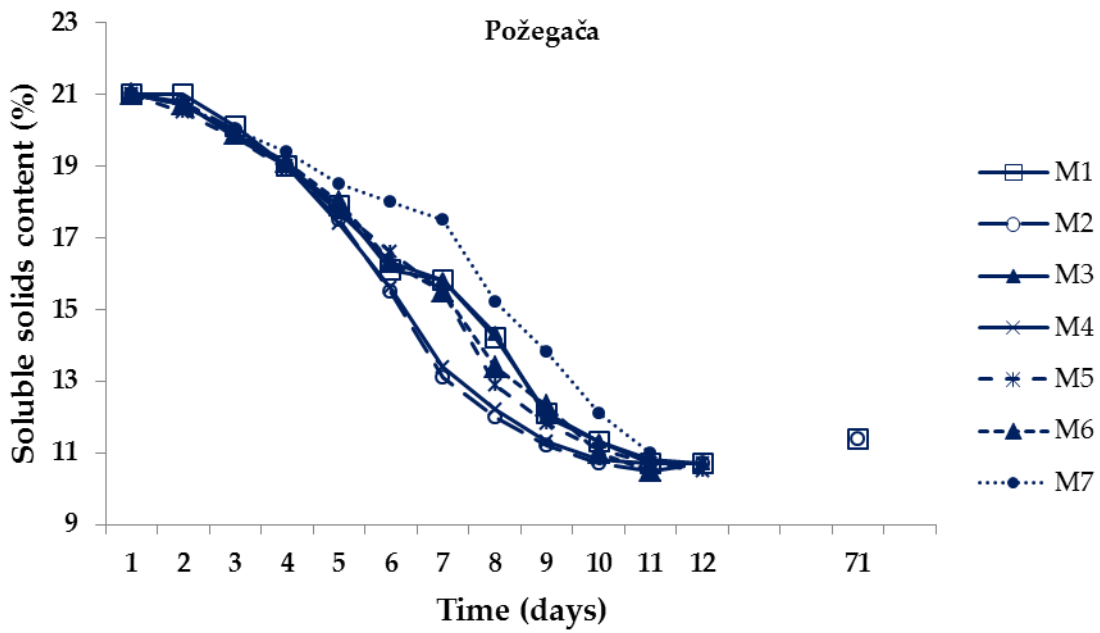
**Figure S1.** Plum processing. a) Toothed roller crusher, b) crushed plum mash with stones, c) crushed plum mash with stones (detail), d) pulping machine, e) pulped plum mash without stones, f) pulped plum mash without stones (detail).



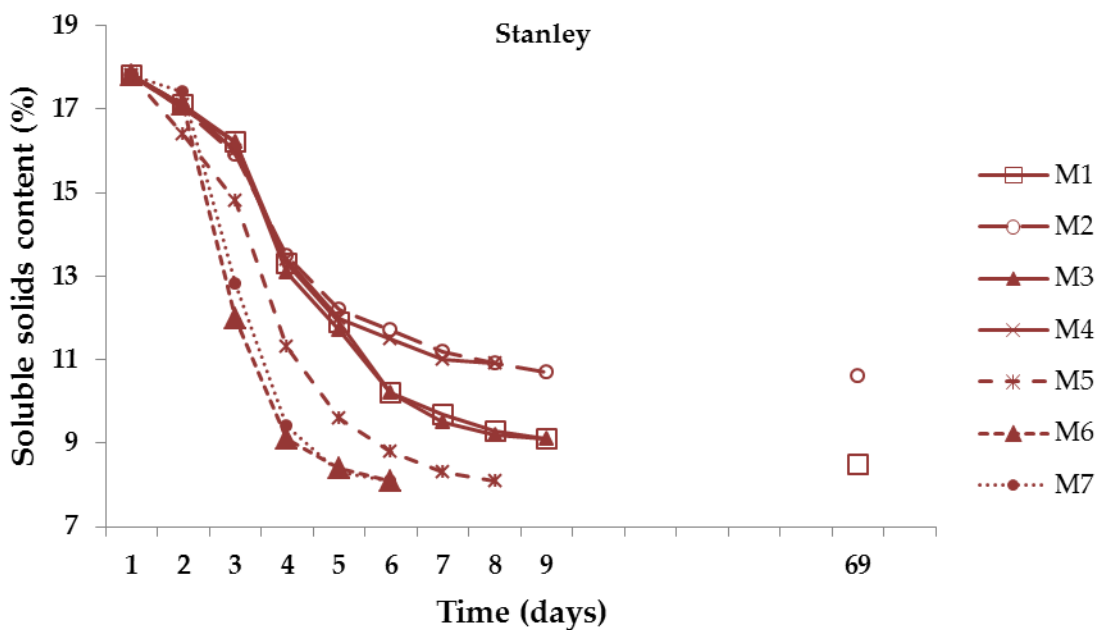
**Figure S2.** Plum mash without stones. a) Manual removing the stones, b) stones removing in pulping machine.



**Figure S3.** Alcoholic fermentation of plum mash. a) Crushed plum mash, b) pulped plum mash.



(a)



(b)

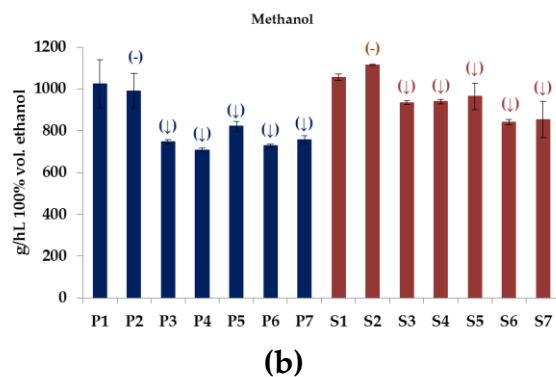
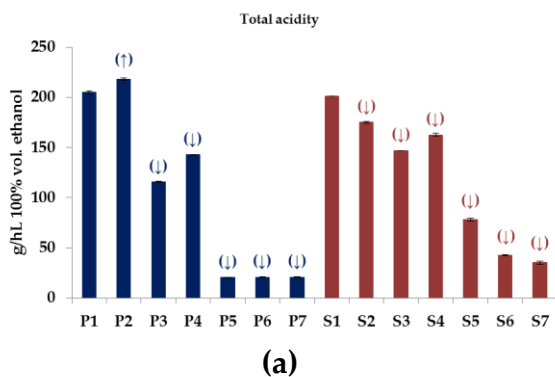
**Figure S4.** Kinetics of alcoholic fermentation of plum mashes. (a) Alcoholic fermentation of Požegača mashes; (b) alcoholic fermentation of Stanley mashes. Method M1 is a traditional production method, whereas methods M2-M7 are modified plum spirit production methods. All fermentations are performed in triplicate and mean values of soluble solids content are shown.

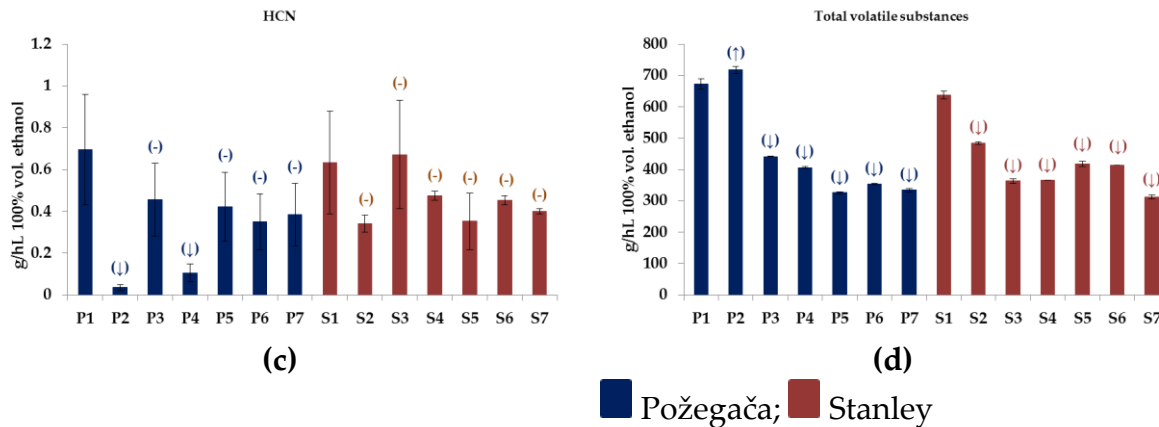
**Table S1.** Results of one-way ANOVA (production method) performed for each parameter

Compounds	Codes	Production method	
		Požegača	Stanley
Total acidity	TAc	***	***
HCN	HCN	**	NS
Methanol	MeOH	***	***
Total volatile substances	TVol	***	***
1-Propanol	A1	***	***
1-Butanol	A2	***	NS
2-Butanol	A3	***	***
2-Methyl-1-propanol	A4	***	***
2-Methyl-1-butanol	A5	***	***
3-Methyl-1-butanol	A6	***	***

1-Hexanol	A7	*	**
2-Phenylethanol	A8	***	***
Total alcohols	TA	***	***
Ethyl acetate (EtAc)	E1	***	***
Ethyl butirate	E2	NS	NS
Ethyl hexanoate	E3	***	***
Ethyl octanoate	E4	***	***
Ethyl decanoate	E5	***	***
Ethyl dodecanoate	E6	***	***
Ethyl tetradecanoate	E7	***	***
Isoamyl acetate	E8	***	***
Diethyl succinate	E9	**	*
Ethyl lactate (EtLac)	E10	***	***
Total esters	TE	***	***
Total esters – EtAc	TE-E1	***	***
Total esters – EtAc – EtLac	TE-E1-E10	***	***
Hexanoic acid (C6)	FA1	***	***
Octanoic acid (C8)	FA2	***	***
Decanoic acid (C10)	FA3	***	***
Total fatty acids (C6+C8+C10)	TFA	***	***
Acetaldehyde	Ad1	***	***
Benzaldehyde	Ad2	***	***
Total aldehydes	TAd	***	***
Total sensory quality	SQ	***	***

For each plum variety NS > 0.05, \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$  indicate significance of production method influence;





**Figure S5.** Content of total acids and ingredients prescribed by legal regulations (g/hL 100% vol. ethanol) in plum spirits of Požegača (P) and Stanley (S) varieties produced by traditional method (P1 and S1) and modified methods (P2-P7 and S2-S7). (a) total acidity (TAc), (b) methanol (MeOH), (c) HCN, (d) total volatile substances (TVol) (Codes are listed in Table S1 of Supplementary materials). For each plum variety, different marks indicate differences in the means ( $p < 0.05$ ), according to Dunnett-test: (↑) Statistical significantly higher values regard to values in traditionally produced plum spirit, (↓): Statistical significantly lower values regard to values in traditionally produced plum spirit, (-): No statistical significantly differences in values regard to values in traditionally produced plum spirit. Concentrations of all parameters are shown as mean  $\pm$  standard deviation.