

Table 2: PS20 degradation, lipase activity and relative abundance

		HCCF					ProA				
	Day	FMA ² (PPM)	4-Mud ³ (fluorescence units/min/mg)	Relative abundance ¹			FMA ² (PPM)	4-Mud ³ (fluorescence units/min/mg)	Relative abundance ¹		
				LPL	LPLA 2	PLBL 2			LPL	LPLA 2	PLBL 2
Fed-batch	14	25	8069	1	1	1	83	1.53	1	ND	1
Perfusion SS	5	31	522				285	0.54			
	9	26	759				316	0.59			
	14	23	825	0.5	3	0.2	308	0.65	0.06	ND	ND
Perfusion NSS	5	26	4110				185	0.55			
	7	28	8342				233	0.98			
	9	19	8312	0.3	0.5	0.08	247	1.55	ND	ND	0.3

¹Ratio of the peak area of the most reliable, y ions. Relative abundance is equated to the normalized ratio between FB and perfusion.

²FMA relies on micelle forming ability of the surfactant and an increase in fluorescence signal of NPN reagent upon micelle formation. A decrease in fluorescence indicates fewer micelles in solution implying lower levels of PS in solution due to degradation.

³Lipases are able to hydrolyze the ester bond of the non-fluorescent substrate, 4-Mud. Through hydrolysis of this ester bond, both decanoic acid and the strong fluorescent 4-methylumbelliferyl (4-Mu) are released.