

**Additional file 9 – Comparison of identical and non-identical distribution of different functional groups of orthologous genes**

Groups <sup>a</sup>	No.CDS	Non-identical <sup>b</sup>	Identical <sup>b</sup>	Ratio <sup>b</sup>	$P_I$ <sup>c</sup>	$P_{II}$	$P_{III}$
I	28	15	13	1.461538			
II	12	12	0	-	0.004*		
III	139	60	79	0.898734	0.313	0.000*	
Total	2053	1194	859	1.816065	0.544 <sup>d</sup>	0.003 <sup>d</sup> *	0.000 <sup>d</sup> *

<sup>a</sup> Groups defines as ( I ) orthologous genes whose products are virulence factors and genomic islands in two *S. epidermidis* genome; ( II ) orthologous genes whose products are surface proteins; ( III ) orthologous genes whose products belong to translation, ribosomal structure and biogenesis catalog according to COG.

<sup>b</sup> (Non-identical) number of non-identical orthologs; (Identical) number of identical orthologs; (Ratio) ratios of non-identical orthologs vs. identical orthologs.

<sup>c</sup>  $P$ -value from  $\chi^2$  test for the difference in ratios in all the pairwise comparisons among the three functional groups (\* indicates  $p < 0.05$ ).

<sup>d</sup>  $P$ -value from  $\chi^2$  test for the difference in ratios between the three functional groups and total without themselves (\* indicates  $p < 0.05$ ).