Supporting Information to:

**Characteristic chromatographic fingerprint study of short-chain fatty acids
in human milk, infant formula, pure milk and fermented milk by gas
chromatography-mass spectrometry**

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Figure S1. The representative TIC profile of GC-MS of human milk.

Figure S2. The typical spectrum and fragmentation pathway of hexanoic acid.

Figure S3. The boxplot of SCFAs in human milk, infant formula, pure milk and fermented milk.

Table S1 The information of milk products samples used in this analysis

Sample	Code	Brand	Manufacturer, Country
Infant formula	IF-1	Abbott	Abbott Laboratories, USA
	IF-2	Aptamil	Nutricia, Germany
	IF-3	Wyeth	Wyeth Company, USA
	IF-4	Heinz	H.J. Heinz Company, USA
	IF-5	Mead Johnson	Mead Johnson company, USA
Pure milk	PM-1	Saliter whole fat milk	J.M. Gaebleraleet dairy Limited by Share Ltd., Germany
	PM-2	Emmi swiss premium milk	Emmi swiss company, Switzerland
	PM-3	Del Leche skimmed pure milk	France
	PM-4	Weidendor of pure milk	Hochwald Foods GmbH, Germany
	PM-5	Milkana pure milk	BONGRAIN Group, France
	PM-6	SUKI pure milk	Germany
	PM-7	SanYuan skimmed milk	Beijing SanYuan Group Co., Ltd., China
	PM-8	GuangMing fresh pasteurized milk	Bright Dairy Group Co., Ltd., China
	PM-9	GuangMing fresh milk	Bright Dairy Group Co., Ltd., China
	PM-10	SanYuan premium fresh milk	Beijing SanYuan Group Co., Ltd., China
	PM-11	YiLi pure milk	Inner Mongolia Yili Industrial Group Limited by Share Ltd., China
	PM-12	MengNiu pure milk	Inner Mongolia MengNiu Dairy Group Limited by Share Ltd., China
Fermented milk	FM-1	SanYuan fermented milk	Beijing SanYuan Group Co., Ltd., China
	FM-2	HaiHe fermented milk	Tianjin HaiHe Dairy Group Limited by Share Ltd., China
	FM-3	YiLi Purjoy fermented milk	Inner Mongolia Yili Industrial Group Limited by Share Ltd., China
	FM-4	YiLi Changqing fermented milk	Inner Mongolia Yili Industrial Group Limited by Share Ltd., China
	FM-5	Parmalat fermented milk	Tianjin HaiHe Dairy Group Limited by Share Ltd., China
	FM-6	HaiHe fermented milk with probiotics	Tianjin HaiHe Dairy Group Limited by Share Ltd., China
	FM-7	HaiHe fermented milk II	Tianjin HaiHe Dairy Group Limited by Share Ltd., China
	FM-8	MengNiu fermented milk	Inner Mongolia MengNiu Dairy Group Limited by Share Ltd., China

Table S2 The information of human milk from six mothers during the first eight weeks post-partum

Mother No.	Week	Code	Mother No.	Week	Code	Mother No.	Week	Code
1	1	HM-1-1	2	1	HM-2-1	3	1	HM-3-1
	2	HM-1-2		2	HM-2-2		2	HM-3-2
	3	HM-1-3		3	HM-2-3		3	HM-3-3
	4	HM-1-4		4	HM-2-4		4	HM-3-4
	5	HM-1-5		5	HM-2-5		5	HM-3-5
	6	HM-1-6		6	HM-2-6		6	HM-3-6
	7	HM-1-7		7	HM-2-7		7	HM-3-7
	8	HM-1-8		8	HM-2-8		8	HM-3-8
4	1	–	5	1	–	6	1	HM-6-1
	2	HM-4-2		2	–		2	HM-6-2
	3	HM-4-3		3	HM-5-3		3	HM-6-3
	4	HM-4-4		4	HM-5-4		4	HM-6-4
	5	HM-4-5		5	HM-5-5		5	HM-6-5
	6	HM-4-6		6	HM-5-6		6	HM-6-6
	7	HM-4-7		7	HM-5-7		7	HM-6-7
	8	HM-4-8		8	HM-5-8		8	HM-6-8

‘–’ in the table means samples were not collected.

Table S3 Species of bacteria used during the fermentation process of fermented milk

Sample	Manufacturer	Number of bacteria	Species of bacteria
FM-1	SanYuan	2	<i>Streptococcus thermophiles</i> ; <i>Lactobacillus bulgaricus</i>
FM-2	HaiHe	2	<i>Streptococcus thermophiles</i> ; <i>Lactobacillus bulgaricus</i>
FM-3	YiLi	4	<i>Streptococcus thermophiles</i> ; <i>Lactobacillus bulgaricus</i> ; <i>Bifidobacterium lactis</i> ; <i>Lactobacillus acidophilus</i>
FM-4	YiLi	7	<i>Streptococcus thermophiles</i> ; <i>Lactobacillus bulgaricus</i> ; <i>Bifidobacterium lactis</i> ; <i>Lactobacillus acidophilus</i> ; <i>Bifidobacterium longum</i> ; <i>Lactococcus lactis</i> subsp. <i>Cremoris</i> ; <i>Lactococcus lactis</i> subsp. <i>lactis</i>
FM-5	Parmalat	3	<i>Streptococcus thermophiles</i> ; <i>Lactobacillus bulgaricus</i> ; <i>Bifidobacterium lactis</i>
FM-6	HaiHe	3	<i>Streptococcus thermophiles</i> ; <i>Lactobacillus bulgaricus</i> ; <i>Bifidobacterium lactis</i>
FM-7	HaiHe	2	<i>Streptococcus thermophiles</i> ; <i>Lactobacillus bulgaricus</i>
FM-8	MengNiu	3	<i>Streptococcus thermophiles</i> ; <i>Lactobacillus bulgaricus</i> ; <i>Bifidobacterium BB-12</i>