

Grouping	Santl-Temkiv et al. (2013)	Osterholz et al. (2016)	Seidel et al. (2014)	Ohno et al. (2018)	Ohno and Ohno (2013)	Antony et al. (2017)	Ohno et al. (2014)	Ohno et al. (2010)	Sleighter et al. (2014)	Chen et al. (2018)	Hockaday et al. (2009)
Polyphenols		$0.5 < A_{MOD} \leq 0.66$									
Highly unsaturated aliphatics		$A_{MOD} \leq 0.5$ $H/C < 1.5$ $O/C < 0.9$									
Unsaturated aliphatics	$2.0 > H/C \geq 1.5$	$1.5 < H/C \leq 2$ $O/C < 0.9$ $N = 0$	$2.0 > H/C \geq 1.5$		$H/C = 0.70 - 1.50$ $O/C = 0.00 - 0.10$	$O/C = 0.0 - 0.1$ $H/C = 0.7 - 1.5$	$H/C = 0.70 - 1.50$ $O/C = 0.00 - 0.10$	$H/C = 0.7 - 1.5$ $O/C = 0 - 0.1$	$O/C = 0.0 - 0.1$ $H/C = 0.7 - 1.7$	$H/C = 0.7 - 1.5$ $O/C < 0.1$	$O/C < 0.1$ $H/C = 0.7 - 1.5$
Saturated fatty acids		$H/C > 2$ $O/C < 0.9$ With or without NSP									
Carbohydrates		$O/C > 0.9$ With or without NSP			$H/C = 1.50 - 2.40$ $O/C = 0.67 - 1.20$	$O/C = 0.6 - 1.2$ $H/C = 1.5 - 2.2$	$H/C = 1.50 - 2.40$ $O/C = 0.67 - 1.20$	$H/C = 1.50 - 2.40$ $O/C = 0.67 - 1.20$	$O/C = 0.6 - 1.2$ $H/C = 1.5 - 2.2$	$H/C \geq 1.5$ $O/C \geq 0.67$	$H/C > 1.5$ $O/C > 0.67$
Peptides/proteins		$1.5 < H/C < 2$ $O/C < 0.9$ $N > 0$			$H/C = 1.50 - 2.20$ $O/C = 0.30 - 0.67$	$O/C = 0.2 - 0.6$ $H/C = 1.5 - 2.2$ $N/C \geq 0.05$	$H/C = 1.50 - 2.20$ $O/C = 0.30 - 0.67$	$H/C = 1.5 - 2.20$ $O/C = 0.3 - 0.67$	$O/C = 0.2 - 0.6$ $H/C = 1.5 - 2.2$ $N/C > 0.05$	$O/C = 0.2 - 0.55$ $H/C \geq 1.5$ $N \geq 1$	$N \geq 1$ $H/C = 1.0 - 2.2$ $O/C = 0.1 - 0.67$
Polycyclic aromatics (PCA)	$A_{MOD} > 0.66$				$H/C = 0.20 - 0.70$ $O/C = 0.00 - 0.67$		$H/C = 0.20 - 0.70$ $O/C = 0.00 - 0.67$	$H/C = 0.20 - 0.70$ $O/C = 0.00 - 0.67$	$O/C = 0.0 - 1.0$ $H/C = 0.3 - 0.7$ $A_{MOD} > 0.67$	$O/C < 0.7$	$O/C = 0 - 0.67$ $H/C = 0 - 0.75$
Polycyclic aromatics (PCA) Black Carbon- like		$A_{MOD} > 0.66$ , more than 15 C	$A_{MOD} > 0.66$ , more than 15 C	$A_{MOD} > 0.66$							
Polycyclic aromatics (PCA) (regular)		$A_{MOD} > 0.66$ , less than 15 C									
Polycyclic aromatics (PCA) with heteroatom		$A_{MOD} > 0.66$ , heteroelement									
Highly aromatic compounds, which include polyphenols and PCAs with aliphatic chains			$0.66 \geq A_{MOD} > 0.50$	$0.66 \geq A_{MOD} > 0.50$							
Highly unsaturated compounds, which include phenols such as soil-derived products of lignin degradation (soil-derived humics)	$A_{MOD} \leq 0.50$ $H/C < 1.5$		$A_{MOD} \leq 0.50$ $H/C < 1.5$	$A_{MOD} \leq 0.50$ $H/C < 1.5$							
Saturated compounds, including fatty and sulfonic acids, and/or carbohydrates	$H/C \geq 2.0$ or $O/C \geq 0.9$		$H/C \geq 2.0$ or $O/C \geq 0.9$	$H/C \geq 2.0$ or $O/C \geq 0.9$							
Unsaturated aliphatic compounds containing N, which includes peptide molecular formulae			$2.0 > H/C \geq 1.5$ $N > 0$	$2.0 > H/C \geq 1.5$ $N > 0$							
Unsaturated aliphatic compounds containing no N				$2.0 > H/C \geq 1.5$ $N = 0$							
Lipids					$H/C = 1.50 - 2.00$ $O/C = 0.00 - 0.30$	$O/C = 0.00 - 0.20$ $H/C = 1.70 - 2.20$	$H/C = 1.50 - 2.00$ $O/C = 0.00 - 0.30$	$H/C = 1.50 - 2.00$ $O/C = 0.00 - 0.30$	$O/C = 0.0 - 0.2$ $H/C = 1.7 - 2.2$	$O/C = 0.0 - 0.2$ $H/C = 1.5 - 2$	$H/C = 1.5 - 2.0$ $O/C < 0.3$
Lignin					$H/C = 0.70 - 1.50$ $O/C = 0.10 - 0.67$	$O/C = 0.10 - 0.60$ $H/C = 0.60 - 1.70$ $A_{MOD} < 0.67$	$H/C = 0.70 - 1.50$ $O/C = 0.10 - 0.67$	$H/C = 0.70 - 1.50$ $O/C = 0.10 - 0.67$	$O/C = 0.1 - 0.6$ $H/C = 0.5 - 1.7$ $A_{MOD} < 0.67$	$H/C = 1.5 - 0.7$ $O/C = 0.1 - 0.67$	$H/C = 1.5 - 0.7$ $O/C = 0.1 - 0.67$
Tannins					$H/C = 0.75 - 1.40$ $O/C = 0.67 - 0.85$	$O/C = 0.60 - 1.20$ $H/C = 0.50 - 1.50$ $A_{MOD} < 0.67$	$H/C = 0.70 - 1.50$ $O/C = 0.67 - 1.20$		$O/C = 0.6 - 1.2$ $H/C = 0.5 - 1.5$ $A_{MOD} < 0.67$	$H/C = 1.5 - 0.7$ $O/C \geq 0.67$	
CRAM						$DBE/C = 0.30 - 0.68$ $DBE/H = 0.20 - 0.95$ $DBE/O = 0.77 - 1.75$					
Aminosugars										$O/C 0.55 - 0.67$ $O/C \geq 1.5$ $N \geq 1$	

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