



Cite this: *Analyst*, 2020, **145**, 4699

## Correction: Confocal Raman microspectroscopy for skin characterization: a comparative study between human skin and pig skin

Sana Tfaiili,<sup>a</sup> Cyril Gobinet,<sup>a</sup> Gwendal Josse,<sup>b</sup> Jean-François Angiboust,<sup>a</sup> Michel Manfait<sup>a</sup> and Olivier Piot<sup>\*a</sup>

DOI: 10.1039/d0an90060e  
[rsc.li/analyst](http://rsc.li/analyst)

Correction for 'Confocal Raman microspectroscopy for skin characterization: a comparative study between human skin and pig skin' by Sana Tfaiili *et al.*, *Analyst*, 2012, **137**, 3673–3682, DOI: 10.1039/C2AN16292J.

The authors regret that the assignment of the Raman vibration at 1047 cm<sup>-1</sup> in Table 2 is incorrect in the original article. The correct version of Table 2 is shown below.

The Royal Society of Chemistry apologises for these errors and any consequent inconvenience to authors and readers.

**Table 2** Raman band assignment<sup>a</sup>

SC surface		SC/epidermis		Epidermis		Assignment
Transkin	Pig skin	Transkin	Pig skin	Transkin	Pig skin	
427						Cholesterol <sup>12</sup>
459	457	457		457		Polysaccharides <sup>13</sup>
486		486		486		Glycogen <sup>14</sup>
519		519				Phospholipids <sup>13</sup>
529		529		527		$\nu(S-S)$ in keratin, $\nu(S-S)$ disulfide in proteins, <sup>14,15</sup> ceramides, <sup>16</sup> $\nu(S-S)$ gauche-gauche-trans (amino acid cysteine) <sup>17</sup>
546	545	541		543		Glucose-saccharide band, cholesterol <sup>17</sup>
564		564		564		Polysaccharides <sup>13</sup>
		582		582		$\delta OH$ out of plane <sup>18</sup>
597		597		597		Phospholipids <sup>17</sup>
605		605	607	605		Glycerol <sup>17</sup>
				619		$\gamma_t C-C$ (protein) <sup>19</sup>
624	622	624	622	624		$\gamma_t C-C$ mode of phenylalanine (proteins) <sup>14,15,20</sup>
646		646		646		$\gamma_t C-C$ mode of tyrosine, cysteine <sup>12</sup>
667		667		667		T, G (DNA/RNA) <sup>20</sup>
701		701		701		$\nu(C-S) trans$ (amino acid methionine), <sup>21</sup> cholesterol, cholesterol ester <sup>17</sup>
724		722		724		DNA <sup>22</sup>
745		747	749	749		T (ring breathing mode of DNA/RNA bases), <sup>19</sup> DNA, <sup>22</sup> symmetric breathing of tryptophan (protein assignment) <sup>12,14,15,23</sup>
803		803		803		Uracil-based ring breathing mode <sup>24</sup>
829	828	828	826	828	827	Out-of-plane ring breathing, tyrosine (1 <sup>st</sup> peak of the Fermi doublet), <sup>14,15</sup> phosphodiester, <sup>25</sup> $\nu O-P-O$ DNA/RNA <sup>20</sup>
854		854		854		Tyrosine (1 <sup>st</sup> peak of the Fermi doublet) and polysaccharide <sup>26</sup>
897		898		896	898	Saccharide band, <sup>17</sup> monosaccharides ( $\beta$ -glucose), (C-O-C) skeletal mode, <sup>25</sup> phosphodiester, deoxyribose <sup>21</sup>
		930				$\nu(C-C)$ , probably in amino acids (protein band) <sup>27</sup>
936	937	937		936	937	$\nu(C-C)$ , $\alpha$ -helix (proteins), amino acid side chain vibrations <sup>12</sup>
987		987		983		$\nu(C-C)$ , $\beta$ -sheet (proteins) <sup>20</sup>
1003		1003		1003		Phenylalanine <sup>12</sup>

<sup>a</sup>MÉDIAN Unit, CNRS UMR 6237, Faculty of Pharmacy, University of Reims Champagne – Ardenne (URCA), 51 rue Cognacq Jay, 51096 Reims, France.  
 E-mail: [olivier.pirot@univ-reims.fr](mailto:olivier.pirot@univ-reims.fr), [sanatfayli@hotmail.com](mailto:sanatfayli@hotmail.com)

<sup>b</sup>Pierre Fabre Institute, Research & Development, Dermo-cosmetics, Toulouse, France



Table 2 (Contd.)

SC surface		SC/epidermis		Epidermis		Assignment
Transkin	Pig skin	Transkin	Pig skin	Transkin	Pig skin	
1031		1031		1031		O-CH <sub>3</sub> ν of methoxy groups <sup>18</sup> δ(C-H), phenylalanine (protein assignment) Phenylalanine, ν(C-N) of proteins <sup>23</sup>
1047						ν PO <sub>4</sub> <sup>3-</sup> , <sup>12</sup> C-C and C-O stretching in HA ν(C-C) skeletal, lipids <sup>28</sup>
1062	1062	1059		1062		ν(C-C) or ν(C-O), phospholipids (lipid assignment), <sup>23</sup> phosphate vibrations (phosphodiester groups in nucleic acids), <sup>29</sup> nucleic acids <sup>30</sup>
1082		1082		1082		Lipid, <sup>31</sup> ν(C-N), <sup>12</sup> phosphodi oxy group in nucleic acids <sup>20</sup>
		1095		1095		ν(C-N), <sup>32</sup> ν(C-C) skeletal <i>trans</i> conformation, <sup>33</sup> phospholipid <sup>34</sup>
1128	1128			1127	1129	ν(C-C) & (C-N) of proteins (also carotenoids), <sup>14,15</sup> glycogen <sup>30</sup>
1155	1155			1155		Cytosine, guanine <sup>25</sup>
1173	1175	1175		1173	1175	ν(C-C <sub>6</sub> H <sub>5</sub> ), tryptophan, phenylalanine (protein assignment) <sup>23,26</sup> One of the two most distinct peaks for RNA (with 813 cm <sup>-1</sup> ), <sup>19</sup> (C, T) <sup>14</sup>
1207	1206	1205		1205		Lipids <sup>30</sup> (doublet with the 1297 peak), amide III, adenine, cytosine <sup>14</sup>
		1244		1244		Amide III, <sup>14</sup> C-H (lipid) <sup>29</sup>
1255	1255			1256		Cytosine <sup>25</sup>
1271	1268	1271		1271		δ CH <sub>2</sub> lipid, <sup>13</sup> adenine, cytosine <sup>14</sup>
				1294		γ <sub>t</sub> CH <sub>3</sub> /CH <sub>2</sub> <sup>21</sup>
1297	1299	1301		1302		Nucleic acid mode <sup>6,35</sup>
				1309		CH <sub>3</sub> band, <sup>14</sup> δ CH <sub>3</sub> symmetric (lipid) <sup>26</sup>
1339	1336	1339		1338	1339	CH rocking <sup>20</sup>
1389	1387			1389		ν(C=O) of COO <sup>-</sup> (amino acids aspartic & glutamic acid) <sup>21</sup>
	1393			1393		Cholesterol, <sup>32</sup> fatty acids, <sup>30,37</sup> δ CH <sub>2</sub> , δ CH <sub>3</sub> <sup>38</sup>
1416						δ CH <sub>2</sub> , δ CH <sub>3</sub> , <sup>12,29,38</sup> C-H vibration (proteins), C-H vibration (lipids) <sup>20</sup>
1442	1441			1449	1451	-C=C- carotenoid <sup>14</sup>
		1449	1451	1449	1451	Tryptophan <sup>14,15</sup>
1526		1526		1526		Tryptophan <sup>27</sup>
1545		1545		1546		δ C=C mode of phenylalanine, <sup>12,27</sup> ν(C=C) olefinic (protein assignment) <sup>26</sup>
1561				1562		δ C=C in-plane mode of phenylalanine & tyrosine, <sup>14,15</sup> cytosine (NH <sub>2</sub> ) <sup>25</sup>
1588		1585		1586		Tyrosine <sup>12</sup>
1604		1604		1604		ν(C=O) amide I, <sup>23</sup> amide I α-helix, <sup>39</sup> lipid ν(C=C), <sup>14,29</sup> carbonyl ν(C=O) <sup>24</sup> and elastin (protein assignment) <sup>23,26</sup>
1613		1613		1613		Amide I band (ν C=O coupled to a δ N-H), <sup>17,40</sup> ceramides <sup>17</sup>
1652	1653	1653		1653		ν(C=O)OH (amino acids aspartic & glutamic acid) <sup>21</sup>
1671		1671		1671		ν CH <sup>41</sup>
		1724		1724		ν CH <sub>2</sub> symmetric of lipids, ν CH <sub>3</sub> symmetric of lipids <sup>42</sup>
1742	1742			1742		ν CH <sub>2</sub> asymmetric of lipids and proteins <sup>42</sup>
2724	2727			2724		ν CH <sub>2</sub> asymmetric of lipids and proteins <sup>42</sup>
2724	2727			2724		ν CH <sub>2</sub> asymmetric <sup>42</sup>
2849	2850			2849		
2880	2880			2880		
2889	2889			2889		
2934		2934		2934		

<sup>a</sup> γ<sub>t</sub>: twisting (torsion), δ: bending or deformation, ν: stretching, ρ: rocking, A: adenine, C: cytosine, G: guanine, T: thymine.

