

References

1. Wojciechowska E, Pielesz A and Wlochowicz A. Effect of External Lipids on the Process of Wool Yellowing. *Text. Res. J.* 1992; 62: 580–585.
2. Vasconcelos A, Freddi G and Cavaco-Paulo A. Biodegradable Materials Based on Silk Fibroin and Keratin. *Biomacromolecules* 2008; 9: 1299–1305.
3. Eslahi N, Dadashian F and Nejad NH. An Investigation on Keratin Extraction from Wool and Feather Waste by Enzymatic Hydrolysis. *Preparative Biochemistry and Biotechnology* 2013; 43(7): 624–648. DOI:10.1080/10826068.2013.763826
4. Deng C, Wang L and Wang X. Diameter variations of irregular fibers under different tensions. *Fibers and Polymers* 2007; 8: 642–648.
5. Kuhn R and Meyer WA. Note on the Specific Cuticle Structure of Wool Hairs Otters (Lutrinae). *Zoological Science* 2010; 27: 826–829.
6. Kotlinska A and Lipp-Simonowicz B. Research on the Enzymatic Treatment of Wool Fibres and Changes in Selected Properties of Wool. *Fibres and Textiles in Eastern Europe* 2011; 19, 3(86): 88–93.
7. Blackburn RS. *Biodegradable and sustainable fibres*. Cambridge England: Woodhead Publishing Limited, 2005, p. 456.
8. Czaplicki Z and Ruszkowski K. Optimization of Scouring Alpaca Wool by Ultrasonic Technique. *Journal of Natural Fibers* 2014; 11: 169–183.
9. Kan CW and Yuen CWA. A comparative study of wool fibre surface modified by physical and chemical methods. *Fibers and Polymers* 2009; 10: 681–686.
10. Čepaitienė A. *Ethnology of Lithuania* (in Lithuanian). Vilnius: Publishing Diemedis, 2001.
11. Green JS. Evaluation of Non-Traditional Animal Fibres for Use in Textile Products. PhD Thesis, University of North Carolina State, USA, 2003.

12. Ragaišienė A and Rusinavičiūtė J. Comparative Investigation of Mechanical Indices of Sheep's Wool and Dog Hair Fibre, *Fibres and Textiles in Eastern Europe* 2012; 20, 6A(95): 43–47.
13. Wojciechowska E, Wlochowicz A and Weselucha-Birczyna A. Application of Fourier-transform infrared and Raman spectroscopy to study degradation of the wool fiber keratin. *Journal of Molecular Structure* 1999; 511–512: 307–318.
14. IWTO Standard Test Method IWT0-12-95, Measurement of the Mean and Distribution of Fibre Diameter using the Sirolan-Laserscan Fibre Diameter Analyser.
15. Niu M, Liu XG, Dai JM, Hou WS, Wei LQ and Xu BS. Molecular structure and properties of wool fiber surface-grafted with nano-antibacterial materials. *Spectrochim. Acta Part. A* 2012; 86: 289–293.
16. Long JJ, Cui ChL, Wang L, Xu HM, Yu ZJ and Bi XP. Effect of treatment pressure on wool fiber in supercritical carbon dioxide fluid. *Journal of Cleaner Production* 2013; 43: 52–58.
17. SirolanTM Laserscan/ A New Technology for a New Millennium, 1999; 1–24.
18. Buika G, Getautis V, Martynaitis V and Rutkauskas K. *Spectroscopy of organic compounds*. Kaunas: Vitae Litera, 2007, p. 277 (in Lithuanian).
19. Stuart BH. *Infrared spectroscopy: fundamentals and applications*, Sydney: John Wiley&Sons, 2004. p. 71–81.
20. Kong J and Yu S. Fourier transform infrared spectroscopic analysis of protein secondary structures. *Acta Bioch. Bioph. Sin.* 2007; 39: 549–559.
21. Krimm S and Bandekar J. Vibrational Spectroscopy and Conformation of Peptides, Polypeptides, and Proteins. *Advance of Protein Chemistry* 1986; 38: 181-364.

22. Aluigi A, Zoccola M, Vineis C, Tonin C, Ferrero F and Canetti M. Study on the structure and properties of wool keratin regenerated from formic acid. *International Journal of Biological Macromolecules* 2007; 4: 266–273.
23. Wojciechowska E, Rom M, Włochowicz A, Wysocki M and Wesełucha-Birczynska A. The use of Fourier transform-infrared (FTIR) and Raman spectroscopy (FTR) for the investigation of structural changes in wool fibre keratin after enzymatic treatment. *Journal of Molecular Structure* 2004; 704: 315–321.
24. Espinoza EO, Baker BW and Moores TD, *et al.* Forensic identification of elephant and giraffe hair artifacts using HATR FTIR spectroscopy and discriminant analysis. *Endangered Species Research* 2008; 9: 239–246.
25. Fonollosa J, Campos L, Martı́ M, de la Maza A, Parra JL and Coderch L. X-ray diffraction analysis of internal wool lipids *Chem. Phys. Lipids* 2004; 130: 159–166.
26. Aluigi A, Zoccola M, Vineis C, Tonin C, Ferrero F and Canetti M. Study on the structure and properties of wool keratin regenerated from formic acid. *Int. J. Biol. Macromol.* 2007; 41: 266–273.
27. Nishikawa N, Tanizawa NY, Tanaka S, Horiguchi Y and Asakura T. Structural change of keratin protein in human hair by permanent waving treatment. *Polymer* 1998; 39: 3835–3840.
28. Xu WL, Ke GZ, Wu JH and Wang XG. Modification of wool fiber using steam explosion. *Eur. Polym. J.*, 2006; 42: 2168–2173.
29. Cao JN. Is the α - β transition of keratin a transition of α -helices to β -pleated sheets? Part I. In situ XRD studies. *J. Mol. Struct.* 2000; 553: 101–107.
30. Feughelman M, Lyman DJ and Willis BK. The parallel helices of the intermediate filaments of α -keratin. *Int. J. Biol. Macromol.* 2002; 30: 95–96.