

## DISCOLOURATION OF FLEECE WOOL BY NON-SCOURABLE CHROMOPHORES

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The colour of scoured wool is a critical determinant of its value and quality, with the presence of significant non-scourable discoloration severely limiting its use. In order to develop effective protocols for the removal or prevention of non-scourable fleece wool discoloration, it is imperative that all significant contributing chromophores are characterised and their origin established. We describe the location, extraction and characterisation of chromophores from non-scourable yellow fleece wool. Yellow discoloration was found to be located predominantly in the cuticular region of the wool fibre. Chromophoric compounds were extracted, isolated and characterised by tandem mass spectrometry, with five phenazine-derivatives identified; phenazine, 1-hydroxyphenazine, phenazine-1-carboxylic acid, pyocyanine and 1-methoxyphenazine. Phenazines are brightly coloured pigments that are characteristic secondary metabolites of the bacterial genus *Pseudomonas*, a known ubiquitous component of the wool fleece microflora. The results of this research represent significant progress in the understanding of wool discoloration, providing insight into both the chemical and microbial origin of non-scourable wool yellowing

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