

Graph referenced as "Infra-red spectra of wool"

Contributors

Gratzer, W. B. (Walter Bruno), 1932-

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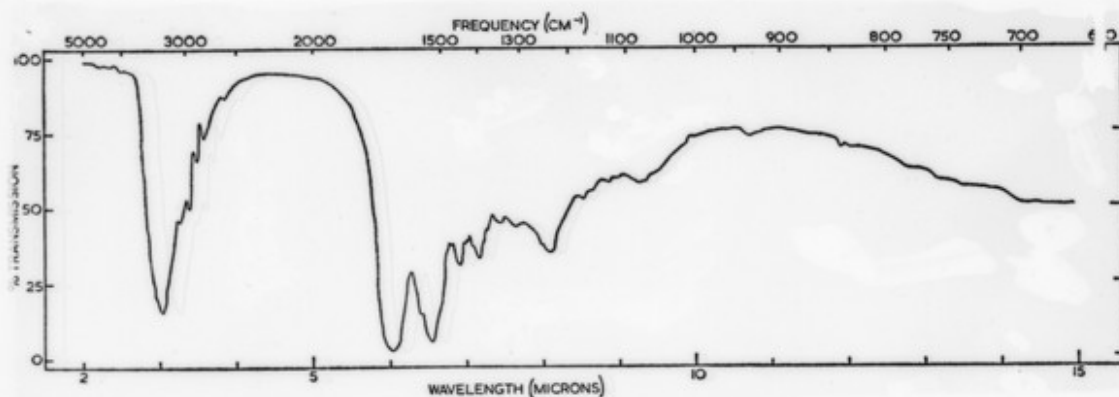
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Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
<https://wellcomecollection.org>

A study of the infra-red spectra of wool fibres using the KBr disk technique

In the case of wool, the 1399 cm^{-1} band, which is associated with the 1385 cm^{-1} band listed by BEER *et al.* disappears as this band disappears.



groups. The number of carboxyl groups is 10.1–12.4 glutamic acid ($-\text{CH}_2-\text{CH}_2-\text{COOH}$) and 0.5–0.2 aspartic acid ($-\text{CH}_2-\text{COOH}$) residues per 100 amino acid residues [9]. This number of groups could easily give an observable infra-red absorption band. BELLAMY [10] lists the following frequencies:

- COOH: $1725\text{--}1700\text{ cm}^{-1}$ (S) (C=O str.)
- COOH: $1320\text{--}1211\text{ cm}^{-1}$ (S) (C—O str. or OH deform.)
- COO⁻: $1610\text{--}1550\text{ cm}^{-1}$ (S) (antisym. C \cdots O str.)
- COO⁻: $1420\text{--}1300\text{ cm}^{-1}$ (S) (sym. C \cdots O str.)

The isoionic (or, for H⁺ ions, isoelectric) point of wool is at pH 6.0–6.2 [11]. At pH values <6.0 the COOH form occurs, while for pH values >6.0 the COO⁻ is