Purification of gelatine using glass columns

Gelatine plays an important role, especially in the pharmaceutical industry where it is used for capsules, in blood plasma substitutes or as tablet coatings.

Other application areas for gelatine include:

- **Photography and ink-jet printing**
- **Cosmetics**
- **Paper processing**
- **Analytical reagents**
- **Detergents and cleansing agents**

Gelatine is also used for the restoration of historical documents. For this application purpose, E. Hummert et al. investigated the penetration behaviour of gelatine into paper.
In order to show the penetration, the gelatine was labelled with Texas Red™, a fluorescent dye. For the purification of the gelatine conjugate, a YMC ECO^{PLUS} glass column packed with SEC material was used.

ECO^{PLUS} glass column

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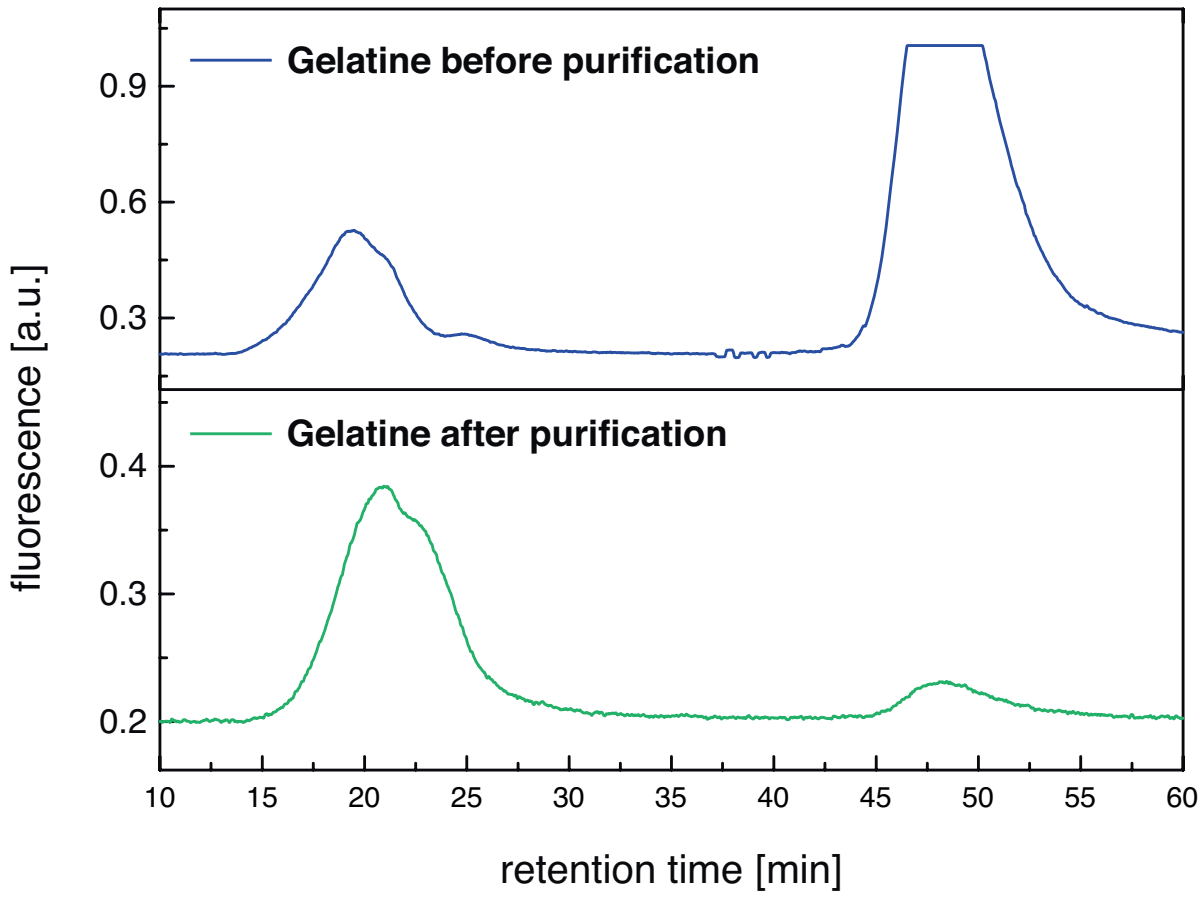

Figure 1: Gelatine before and after purification. For the purification, an ECO^{PLUS} glass column packed with SEC material was used. [2]

Using aqueous SEC at 25 °C, the free fluorescent dye could be removed almost completely from the labelled gelatine.
Futhermore, E. Hummert et al. evaluated the suitability of prepacked, disposable columns for the purification of the gelatine conjugates. The disposable cartridges showed a number of disadvantages. With the YMC glass column, they received improved chromatographic results.

The advantages of the ECO^{PLUS} glass columns for the purification of gelatine are:

Increased throughput and higher loadability:	Doubled the sample volume could be injected!
Improved resolution:	Excellent separation of the free dye and the labelled conjugate

Literature:

[1] Schrieber, Reinhard/Gareis, Herbert (2007), Gelatine Handbook: Theory and Industrial Practice, Weinheim

[2] E. Hummert et al., Fluorescence labelling of gelatin and methylcellulose: monitoring their penetration behaviour into paper, Cellulose (2013) 20:919-931