

Accepted Manuscript

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Authors: Simone Carradori, Daniela Secci, Cristina Faggi, Roberto Cirilli

PII: S0021-9673(17)31702-8
DOI: <https://doi.org/10.1016/j.chroma.2017.11.037>
Reference: CHROMA 359021

To appear in: *Journal of Chromatography A*

Received date: 17-7-2017
Revised date: 31-10-2017
Accepted date: 15-11-2017

Please cite this article as: Simone Carradori, Daniela Secci, Cristina Faggi, Roberto Cirilli, A chromatographic study on the exceptional chiral recognition of 2-(benzylsulfinyl)benzamide by an immobilized-type chiral stationary phase based on cellulose tris(3,5-dichlorophenylcarbamate), *Journal of Chromatography A* <https://doi.org/10.1016/j.chroma.2017.11.037>

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A chromatographic study on the exceptional chiral recognition of 2-(benzylsulfinyl)benzamide by an immobilized-type chiral stationary phase based on cellulose tris(3,5-dichlorophenylcarbamate)

Simone Carradori^a, Daniela Secci^b, Cristina Faggi^c and Roberto Cirilli^{d*}

^aDipartimento di Farmacia, Università “G. D’Annunzio” di Chieti-Pescara, Via dei Vestini 31, 66100 Chieti, Italy.

^bDipartimento di Chimica e Tecnologie del Farmaco, “Sapienza” Università di Roma, P.le A. Moro 5, 00185 Rome, Italy.

^cDipartimento di Chimica, Università degli studi di Firenze, Via della Lastruccia 13, 50019 Sesto Fiorentino, Florence, Italy.

^dCentro nazionale per il controllo e la valutazione dei farmaci, Istituto Superiore di Sanità, Viale Regina Elena 299, I-00161 Rome, Italy.

Highlights

- -We described the HPLC behavior of a small set of chiral sulfoxides on the IC-3 CSP.
- -By using *n*-hexane-2-propanol 80:20 as a mobile phase, α was 150 for one of them.
- -HPLC data suggested the presence of HB interactions in the unusual enantioseparation.
- -An HPLC protocol determined the α -value at low % of 2-propanol in the eluent.

Abstract

In previous studies, Okamoto et al. described the results of the exceptionally large chiral recognition of 2-(benzylsulfinyl)benzamide onto a coated-type chiral stationary phase based on cellulose tris(3,5-dichlorophenylcarbamate). As a continuation and deepening of those studies, here the sulfoxide and a small set of its structural analogues were analyzed on the commercially available Chiralpak IC-3 chiral stationary phase based upon the same polysaccharide derivative as the chiral selector but immobilized onto silica support.

The chromatographic results obtained using different mobile phases consisting of pure methanol, ethanol and 2-propanol or binary mixtures *n*-hexane-2-propanol, which are prohibited with the progenitor coated-type chromatographic support, permitted to identify the NH₂ of the amide group as the key structural element of the

*Corresponding author. E-mail address: roberto.cirilli@iss.it (Roberto Cirilli)

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