



**ANKARA UNIVERSITY
FACULTY OF PHARMACY**



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S** **13th** **International
SYMPOSIUM ON
PHARMACEUTICAL
SCIENCES**

Book of Abstracts

**JUNE 22-25, 2021
ANKARA, TURKEY**





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Dear Participants and Guests,

I would like to express my sincere appreciation for the valuable contributions of all the participants of 13th International Symposium on Pharmaceutical Sciences (ISOPS). As we all know, the COVID-19 pandemic is still ongoing and the vaccination programmes are proceeding throughout the world. However, during 2021 we continue to face travel bans, governmental and contract restrictions in many countries. Therefore, the symposium was organized as a virtual event for the first time in its history.

ISOPS, initiated in 1989, has successfully brought international scientists, researchers, students together from pharmaceutical sciences and related areas. This symposium was organized biannually until 1997 and then every three years.

Ankara University, Faculty of Pharmacy is the first faculty of pharmacy in Turkey and was established in nineteen sixty (1960). Since the establishment, the institution rapidly progressed and now has very advanced scientific and physical infrastructure. Pharmaceutical science refers to a category of scientific fields and has followed important development processes, mainly in line with the developments in Biotechnology, Nanotechnology and Health Technologies, which are among the priority of the technology fields of today. While realizing the modern requirements, our Faculty has a 5-year undergraduate education programme since 2005 and besides Turkish; it provides an instruction programme in English language since 2015. Our faculty has 6689 graduates since its establishment and the current number of students is 1267. Present educational and scientific resources allow a total of 138 faculty members, 45 professors, 22 associate professors, 5 assistant professors, 51 research assistants in our faculty. Moreover, 66 administrative staff members and other personnel are working at different offices.

The mission of 13th International Symposium of Pharmaceutical Sciences was to perform a broad scientific perspective by the invitation of distinguished scientists having national / international reputation in their areas, so most recent advances were discussed interactively, and to empower the knowledge-based drug research development and multidisciplinary collaborations. It was our intention to make this symposium a memorable event.

This year, scientists from 24 countries registered to ISOPS-13. Our programme consisted of 40 plenary lectures, 212 oral and 200 poster presentations. Excellent research works were presented in different sessions. The speakers in the programme were uniquely placed in accordance to their area of expertise.

I would like to refer also to other initiatives that took place in our symposium. A workshop on "Employability of the Graduates of the Faculty of Pharmacy in Europe" was held with the contribution of Prof. Luciano Saso, Prof. Claire Anderson, Prof. Lilian M. Azzopardi, Prof. Sibel Süzen, Prof. İlkay Erdogan Orhan and Pharm. Nilhan Uzman. This workshop was interesting in terms of discussing the priorities and developments on this topic from local, regional and international respects.

On June 25, our panel on "University-industry-public sector cooperation in drug and vaccine development processes" was carried out by Prof. Dr. Asuman BOZKIR. The heads and *senior representatives of relevant institutions* including; Prof. Hasan Mandal, Assoc. Prof. Tolga Karakan, Pharm. Dr. Nihan Burul Bozkurt, Prof. Erhan Akdoğan, Assoc. Prof. Rabia Çakır Koç, Prof. Mayda Gürsel, Prof. Rana Sanyal, Prof. Hülya Ayar Kayalı, Dr. Süha Taşpolatoğlu, Dr. Hasan Ersin Zeytin, and Pharm. Dr. Ferhat Farşi were with us. This event has been a great platform to discuss the existing practices and requirements, and to propose solutions.

On behalf of the Organizing Committee, I would like to mention my gratitude to the President of Ankara University who gave full support for the Symposium Organization. ISOPS-13 was organized successfully, without any professional support, with the contribution of all our faculty members, especially our symposium secretary Assoc. Prof. Zerrin Sezgin-Bayındır. I congratulate the organizing committee and all the other committees with all my heart, as well as all academic and managing personnel because of their extensive work.

Prof. Dr. Asuman BOZKIR

Chair of ISOPS-13

Honory President of the Symposium

Prof. Dr. Necdet ÜNÜVAR

President of Ankara University

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POSTER PRESENTATIONS

are frequently responsible for fizzy transfer and short life cycle of the gradient elution method. Therefore, it is advisable to incorporate dwell volume into the optimization stage and avoid transfer related failures. The chemometric approach would enable selection of optimal chromatographic conditions for different HPLC instruments. The aim of this study was to propose and test this approach in gradient elution method's development.

Materials and Methods: The experiments were carried out on three chromatographic systems (UPLC, UHPLC and HPLC), while the separation was achieved on Kinetex C18 Core-shell column (100 mm × 2.1 mm, 2.6 μm particle size). Design of experiments was constructed in Design-Expert 11.0. Indirect modeling, grid point search and graphical presentations were done in Matlab 7.10.0.

Results: Dabigatran etexilate mesylate and nine structurally related compounds were selected as suitable model mixture due to its complexity and polarity. Method development was supported with experimental design methodology, Plackett – Burman for screening and D-optimal design for optimization purposes. Dwell volumes were included in the optimization phase and in this way the same optimal chromatographic conditions for all three instruments were selected.

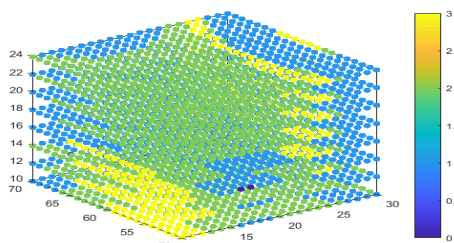


Fig 1: Experimental space overlap of instruments: yellow – 3 instruments, green – 2 instruments, light to dark blue 0 – 1 instrument

They included 10 mM ammonium acetate buffer with pH set to 4.9 using acetic acid, and acetonitrile. The components of the mobile phase were pumped into chromatographic system with flow rate of 400 μL min⁻¹ in a linear gradient mode: at 0 minutes 24% (v/v) acetonitrile and 76% (v/v) of buffer solution, at 15 minutes 54% (v/v) acetonitrile and 46% (v/v) buffer solution. At 16 minutes the acetonitrile content was back to 24% (v/v) and 76% (v/v) of buffer solution. The re-equilibration time was set to 5 minutes. The examined chromatographic region is graphically presented and optimal conditions are noticed as the cross sections (yellow dots). The method was validated and confirmed its utility on all instruments.

Conclusions: The proposed methodology demonstrated its ability to predict joint optimal chromatographic conditions for instruments with

different values of dwell volume. The potential was confirmed on complex model mixture and instruments significantly differing in dwell volume values. In this way the gap between developing and routine needs could be overwhelmed, followed by facilitated transfer of methods.

Acknowledgements

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References:

1. Snyder L et al., (2007). High-Performance Gradient Elution. Wiley-Interscience.
2. Kazakiewicz YV et al., (2007). HPLC for Pharmaceutical Scientists. Wiley-Interscience.

P129: CHEMOMETRICALLY SUPPORTED OPTIMIZATION OF RP/WCX-HPLC METHOD

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Introduction: Active pharmaceutical ingredients (APIs) are often used in salt form, which is why the inclusion of weak cation exchange (WCX), in addition to reverse-phased (RP) hydrophobic interactions, could improve APIs' separation (1). Due to the limited knowledge about the RP/WCX bimodal system, the aim was to elucidate the experimental factors' influence on the retention of diverse ionized APIs, and provide efficient method optimization.

Materials and Methods: Acidic (ibuprofen (IB), aceclofenac (AC)) and basic (escitalopram (ES), aripiprazole (AR), atomoxetine (AT)) analytes were tested. Chromatography experiments were performed on Thermo Acclaim Mixed Mode WCX-1 (5 μm, 3x10 mm) column. Mobile phase consisted of ACN (30-50% (v/v)) and acetic buffer (pH 3.8 - 5.6; ionic strength (I) 20-40 mM). Temperature (T) was varied in range 30–38 °C. Variations of these factors were conducted according to Full Factorial Design 2⁴. Optimization phase was executed by using face-centered Central Composite Design (Design-Expert 7.0.0).

Results: Screening results showed that %ACN had the greatest impact on analytes' retention factors (k), so increasing in %ACN caused a decrease in k. T had the same effect, but much less pronounced. Changes in mobile phase pH affected k, with the opposite effect on anionic and cationic

species. This is attributed to greater ionization of stationary phases' carboxylic groups at higher pH. As consequence, repulsive interactions with anionic and attractive interactions with the cationic analytes, are enhanced, vice versa (2). Ionic strength had much more influence on cationic analytes than on anionic ones. Due to all the above, all of four factors were included during optimization phase. Optimization goals were set so that k values were in range 1–10 ($k(\text{AR}) < 10$, $k(\text{AC}) > 10$, $k(\text{IB})$ in range) and selectivity of critical peak pair $\alpha(\text{AT/ES}) > 1.3$. All derived mathematical models were statistically estimated (R^2 , adj. R^2 , pred. $R^2 > 0.95$). Set of optimal conditions which is 47% (v/v) ACN, acetic buffer (40 mM, pH 3.8) and temperature 30 °C was determined using Derringer's desirability function.

Conclusions: Experimental parameters with significant influence on retention in bimodal RP/WCX system were evaluated, and upon that method was successfully optimized.

Acknowledgements

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References:

- Zhang K, Liu X (2016). *Journal of Pharmaceutical and Biomedical Analysis*, 128:73–88.
- Lemasson et al., (2018). *Chromatographia*, 81:387–99.

P130: SIMULTANEOUS DETERMINATION OF SULFACETAMIDE, BETAMETHASONE, METHYL PARABEN AND PROPYL PARABEN IN PHARMACEUTICAL EYE DROP USING RP- HPLC

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Introduction: Sulfacetamide (SFS) is a bacteriostatic topical antibacterial of the sulfonamide group (1). Betamethasone (BTM) is a topical corticosteroid with anti-inflammatory and vasoconstrictive action (1). Methyl paraben (MP) and Propyl paraben (PP) are widely used as an antimicrobial preservative in pharmaceutical formulations (2). These four compounds are pharmacologically active constituents found in an eye drop. There have been numerous publications describing various methods for the quantification of these compounds individually and in combination

with other drugs (3, 4). This study involves the development of a novel reversed-phase (RP) chromatographic method for simultaneous determination of SFS, BTM, MP, PP present in a pharmaceutical eye drop.

Materials and Methods: Stock solutions of compounds were prepared in methanol. Standard solutions were prepared from stock solutions by dilution with mobile phase consisted of water and acetonitrile (55:45, v/v). Optimum chromatographic separations of SFS, BTM, MP, PP have been achieved within 7 minutes at flow rate of 0.5 mL/min by using Agilent Zorbax Eclipse XDB C18 (75 x 3.0 mm, 3.5 µm) column and detection was performed at 250 nm using UV detector.

Results: The method was validated in accordance with ICH guidelines. The linear ranges in the RP-HPLC method were 3.0 - 7.0 µg/mL, 1.5 - 3.5 µg/mL, 0.6 - 1.4 µg/mL and 0.6 - 1.4 µg/mL for SFS, BTM, MP and PP, respectively (Fig. 1). The LOD values were found as 0.37, 0.33, 0.021 and 0.012 µg/mL for SFS, BTM, MP and PP, respectively. Moreover, percentage recovery values of each compounds were determined between 95.75% and 104.82% in pharmaceutical eye drop.

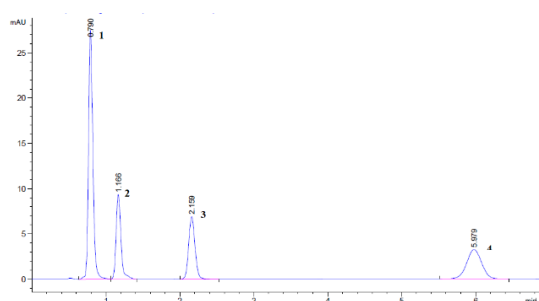


Fig 1. System suitability chromatogram 1: SFS, 2: MP, 3: PP, 4: BTM

Conclusions: In this study, RP-HPLC method is presented for the simultaneous determination of SFS, BTM, MP, PP in eye drop which offers numerous advantages, such as good resolution, accuracy, precision, selectivity and rapidity, ease of operation.

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References:

- Ahmed S, Anwar N, Sheraz MA, Ahmad I (2017). *Journal of Pharmacy and Bioallied Sciences*, 9(2): 126-134.
- Rowe RC, Sheskey PJ, Quinn ME (2009). *Handbook of Pharmaceutical Excipients*. Pharmaceutical Press and American Pharmacists Association, Sixth Edition, 441, 596.
- Hassib ST, Mahrouse MA, Elkady EF, Sayed RM (2018). *Journal of Chromatographic Science*, 56(8): 16-723.