**A THESIS SUBMITTED TO**

**THE GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES**

**OF ÇANKIRI KARATEKİN UNIVERSITY**

**TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE**

**IN PARTIAL FULFILLMENT OF THE REQUIREMENTS**

**FOR**

**THE DEGREE OF DOCTOR OF PHILOSOPHY**

**IN**

**CHEMICAL ENGINEERING**

**BY**

**NAME SURNAME**

**ÇANKIRI**

**2022**

TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE

By Name SURNAME

November 2022

We certify that we have read this dissertation and that, in our opinion, it is fully adequate in scope and quality as a thesis for the degree of Doctor of Philosophy.

**Advisor :** Asst.Prof. Dr. Name SURNAME

**Co-Advisor :** Asst. Prof. Dr. Name SURNAME

**Examining Committee Members:**

**Chairman :** Asst.Prof. Dr. Name SURNAME

 Chemical Engineering

 Çankırı Karatekin University

**Member :** Assoc. Prof. Dr. Name SURNAME

Chemical Engineering

 Yıldız Technical University

**Member :** Asst. Prof.Dr. Name SURNAME

Chemical Engineering

 Çankırı Karatekin University

**Member :** Assoc. Prof. Dr. Name SURNAME

Chemical Engineering

 Yıldız Technical University

**Member :** Asst. Prof.Dr. Name SURNAME

Chemical Engineering

 Çankırı Karatekin University

**Approved for the Graduate School of Natural and Applied Sciences**

**Prof. Dr. Hamit ALYAR**

**Director of Graduate School**

**I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work****.**

**Name SURNAME**

*This work was supported by the project numbered MF011122L22 of Çankırı Karatekin University Scientific Research Projects Coordination Unit.*

# ABSTRACT

TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE TITLE

Name SURNAME

Doctor of Philosophy in Chemical Engineering

Advisor: Asst. Prof. Dr. Name SURNAME

Co-Advisor: Asst. Prof. Dr. Name SURNAME

November 2022

In this study, In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study In this study.

**2022, 111 pages**

**Keywords:** Keyword keyword1, Keyword2, Keyword keyword keyword3, Keyword4, Keyword keyword5

# ÖZET

BAŞLIK BAŞLIK BAŞLIK BAŞLIK BAŞLIK BAŞLIK BAŞLIK BAŞLIK BAŞLIK BAŞLIK BAŞLIK BAŞLIK BAŞLIK BAŞLIK

İsim SOYİSİM

Kimya Mühendisliği, Doktora

Tez Danışmanı: Dr. Öğr. Üyesi İsim SOYİSİM

Eş Danışman: Dr. Öğr. Üyesi İsim SOYİSİM

Kasım 2022

Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada Bu çalışmada.

**2022, 111 sayfa**

**Anahtar Kelimeler:** Anahtar kelime1, Anahtar kelime anahtar kelime2, Anahtar kelime3, Anahtar kelime anahtar kelime4, Anahtar kelime5

# PREFACE AND ACKNOWLEDGEMENTS

I would like to thank my thesis advisor, Asst. Prof. Dr. Name SURNAME, for his patience, guidance and understanding.

**Name SURNAME**

**Çankırı-2022**

# CONTENTS

[ABSTRACT i](#_Toc86200454)

[ÖZET ii](#_Toc86200455)

[PREFACE AND ACKNOWLEDGEMENTS iii](#_Toc86200456)

[CONTENTS iv](#_Toc86200457)

[LIST OF SYMBOLS v](#_Toc86200458)

[LIST OF ABBREVIATIONS vi](#_Toc86200459)

[LIST OF FIGURES vii](#_Toc86200460)

[LIST OF TABLES viii](#_Toc86200461)

[1. INTRODUCTION 1](#_Toc86200462)

[2. LITERATURE REVIEW 6](#_Toc86200463)

[2.1 Relationship Between Scattering Angle in Laboratory System and Scattering Angle in Breit System 6](#_Toc86200466)

[3. MATERIALS AND METHODS 8](#_Toc86200467)

[3.1 Chemicals Used in Material Synthesis 8](#_Toc86200468)

[3.1.1 Explanation of synthesis steps 8](#_Toc86200469)

[3.1.2 Photocatalytic analysis of materials 9](#_Toc86200470)

[3.2 Comparison and Selection of Methods 10](#_Toc86200471)

[3.2.1 Production after planning 10](#_Toc86200472)

[4. RESULTS AND DISCUSSION 12](#_Toc86200473)

[5. CONCLUSIONS AND RECOMMENDATION 13](#_Toc86200474)

[REFERENCES 14](#_Toc86200475)

[APPENDICES 15](#_Toc86200476)

[CURRICULUM VITAE 18](#_Toc86200477)

# LIST OF SYMBOLS

BLA Bla bla bla

BLABLA Bla bla bla

BLA BLA Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla

# LIST OF ABBREVIATIONS

BLA Bla bla bla

BLABLA Bla bla bla

BLA BLA Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla

# LIST OF FIGURES

[Figure 1.1 Bla bla bla bla (Yetis and Capar 2018) 2](#_Toc79560754)

[Figure 1.2 Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla blabla bla bla bla bla bla bla (Yetis and Capar 2018) 3](#_Toc79560755)

[Figure 3.1 Bla bla bla bla bla bla bla bla 8](#_Toc79560756)

[Figure 3.2 Bla bla bla bla bla bla bla bla 9](#_Toc79560757)

# LIST OF TABLES

[Table 1.1 Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla blabla bla bla (Yetis and Capar 2018) 2](#_Toc79560701)

[Table 1.2 Bla bla bla bla bla bla bla bla bla bla bla bla bla bla 4](#_Toc79560702)

# INTRODUCTION

Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla (Kepoglu 2014).

Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla (Akuzum *et al.* 2010). Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla (Kepoglu 2014).

Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla.

Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla (Table 1.1). Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla (Yetis and Capar 2018).

Table 1.1 Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla (Yetis and Capar 2018)

|  |  |  |  |
| --- | --- | --- | --- |
| **BLA BLA** | **BLA[[1]](#footnote-1)** | **BLA BLA[[2]](#footnote-2)** | **BLA BLA BLA[[3]](#footnote-3)** |
| Bla bla bla | 132,326.67 | 110,112.62 | 2.4 |
| Bla bla bla | 176,182.30 | 160,477.30 | 1.72 |
| Bla bla bla | 22,870.19 | 14,318.34 | 0.94 |
| Bla bla bla | 27,687.64 | 25,463.62 | 0.24 |
| Bla bla bla | 25,364.26 | 21,458.85 | 0.43 |
| Bla bla bla | 358,434.19 | 354,436.00 | 0.44 |
| Bla bla bla | 67,941.60 | 54,509.69 | 1.47 |
| Bla bla bla | 17,481.57 | 14,173.09 | 0.36 |

As seen in Figure 1.1, bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla (Yetis and Capar 2018).

Figure 1.1 Bla bla bla bla (Yetis and Capar 2018)

Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla (Figure 1.2). Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla (Yetiş and Çapar 2018).

Figure 1.2 Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bl a bla bla bla bla bla (Yetis and Capar 2018)

Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla (Yetiş and Çapar 2018). Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla (Mahramanlıoğlu and Arkan 2002).

Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla (Gulnaz *et al.* 2006). Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla (Rajaguru *et al.* 2002, Weisburger 2002, Pandey *et al.* 2007, Cirik *et al.* 2013).

In Table 1.2, bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla (Riga *et al.* 2007, Peternel *et al.* 2007, Kaur and Singh 2007, Kositzi *et al.* 2007, Özbay 2014).

Table 1.2 Bla Bla bla bla bla bla bla bla bla bla bla bla bla bla bla

|  |  |  |  |
| --- | --- | --- | --- |
| **BLA BLA** | **BLA** | **BLA BLA** | **BLA BLA BLA** |
| BLA BLA | BLA BLA | BLA BLA | BLA BLA |
| BLA BLA | BLA BLA | BLA BLA | BLA BLA |
| BLA BLA | BLA BLA | BLA BLA | BLA BLA |
| BLA BLA | BLA BLA | BLA BLA | BLA BLA |
| BLA BLA | BLA BLA | BLA BLA | BLA BLA |
| BLA BLA | BLA BLA | BLA BLA | BLA BLA |
| BLA BLA | BLA BLA | BLA BLA | BLA BLA |
| BLA BLA | BLA BLA | BLA BLA | BLA BLA |
| BLA BLA | BLA BLA | BLA BLA | BLA BLA |
| BLA BLA | BLA BLA | BLA BLA | BLA BLA |
| BLA BLA | BLA BLA | BLA BLA | BLA BLA |
| BLA BLA | BLA BLA | BLA BLA | BLA BLA |
| BLA BLA | BLA BLA | BLA BLA | BLA BLA |
| BLA BLA | BLA BLA | BLA BLA | BLA BLA |
| BLA BLA | BLA BLA | BLA BLA | BLA BLA |
| BLA BLA | BLA BLA | BLA BLA | BLA BLA |

**Table 1.2** Bla bla bla bla bla bla bla bla bla bla bla bla bla bla (Continued)

|  |  |  |  |
| --- | --- | --- | --- |
| **BLA BLA** | **BLA** | **BLA BLA** | **BLA BLA BLA** |
| BLA BLA | BLA BLA | BLA BLA | BLA BLA |
| BLA BLA | BLA BLA | BLA BLA | BLA BLA |
| BLA BLA | BLA BLA | BLA BLA | BLA BLA |
| BLA BLA | BLA BLA | BLA BLA | BLA BLA |

Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla (Manu and Chaudhari 2002).

Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla (Mahramanlıoğlu ve Arkan 2002). Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla (Kansal *et al.* 2007, Kansal *et al.* 2009, Kositzi *et al.* 2007).

Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla (Kansal *et al.* 2007). Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla (Gündağ 2017). Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla blabla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla (Ali *et al.* 2003, Akyol *et al.* 2004, Daneshvar *et al.* 2004, Ali and Gupta 2006, Gupta *et al.* 2007, Gupta 2009, Gupta *et al.* 2011, Saravanan *et al.* 2013).

# LITERATURE REVIEW

Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla.

1.
2.

## Relationship Between Scattering Angle in Laboratory System and Scattering Angle in Breit System

Masilompane *et al.* (2018) declared that bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla (Masilompane *et al.* 2018).

As Kirby and Gupta (2018) reported in their study bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla (Kirby and Gupta 2018).

Gupta (2010) was studied in his thesis that bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla (Gupta 2010).

# MATERIALS AND METHODS

Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla.

# Chemicals Used in Material Synthesis

Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla.

### Explanation of synthesis steps

Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla Figure 3.1 bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla..



Figure 3.1 Bla bla bla bla bla bla bla bla

Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla.

### Photocatalytic analysis of materials

Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla (Figure 3.2).



Figure 3.2 Bla bla bla bla bla bla bla bla

# **Comparison and Selection of Methods**

Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla.

### **Production after planning**

Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla.

Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla.

# **RESULTS AND DISCUSSION**

Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla.

In Table 4.1 bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla.

Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla (Table 4.1).

Table 4.1 Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla (Yetis ve Capar 2018)

13

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **BLA BLA** | **BLA** | **BLA BLA** | **BLA BLA** | **BLA BLA** | **BLA BLA** | **BLA BLA** | **BLA** |
| Bla bla bla | 132,326.67 | 110,112.62 | 110,112.62 | 110,112.62 | 110,112.62 | 110,112.62 | 2.4 |
| Bla bla bla | 176,182.30 | 160,477.30 | 160,477.30 | 160,477.30 | 160,477.30 | 160,477.30 | 1.72 |
| Bla bla bla | 22,870.19 | 14,318.34 | 14,318.34 | 14,318.34 | 14,318.34 | 14,318.34 | 0.94 |
| Bla bla bla | 27,687.64 | 25,463.62 | 25,463.62 | 25,463.62 | 25,463.62 | 25,463.62 | 0.24 |
| Bla bla bla | 25,364.26 | 21,458.85 | 21,458.85 | 21,458.85 | 21,458.85 | 21,458.85 | 0.43 |
| Bla bla bla | 358,434.19 | 354,436.00 | 354,436.00 | 354,436.00 | 354,436.00 | 354,436.00 | 0.44 |
| Bla bla bla | 67,941.60 | 54,509.69 | 54,509.69 | 54,509.69 | 54,509.69 | 54,509.69 | 1.47 |
| Bla bla bla | 358,434.19 | 354,436.00 | 354,436.00 | 354,436.00 | 354,436.00 | 354,436.00 | 0.44 |
| Bla bla bla | 67,941.60 | 54,509.69 | 54,509.69 | 54,509.69 | 54,509.69 | 54,509.69 | 1.47 |
| Bla bla bla | 358,434.19 | 354,436.00 | 354,436.00 | 354,436.00 | 354,436.00 | 354,436.00 | 0.44 |
| Bla bla bla | 67,941.60 | 54,509.69 | 54,509.69 | 54,509.69 | 54,509.69 | 54,509.69 | 1.47 |
| Bla bla bla | 358,434.19 | 354,436.00 | 354,436.00 | 354,436.00 | 354,436.00 | 354,436.00 | 0.44 |
| Bla bla bla | 67,941.60 | 54,509.69 | 54,509.69 | 54,509.69 | 54,509.69 | 54,509.69 | 1.47 |
| Bla bla bla | 358,434.19 | 354,436.00 | 354,436.00 | 354,436.00 | 354,436.00 | 354,436.00 | 0.44 |
| Bla bla bla | 67,941.60 | 54,509.69 | 54,509.69 | 54,509.69 | 54,509.69 | 54,509.69 | 1.47 |
| Bla bla bla | 358,434.19 | 354,436.00 | 354,436.00 | 354,436.00 | 354,436.00 | 354,436.00 | 0.44 |
| Bla bla bla | 67,941.60 | 54,509.69 | 54,509.69 | 54,509.69 | 54,509.69 | 54,509.69 | 1.47 |
| Bla bla bla | 358,434.19 | 354,436.00 | 354,436.00 | 354,436.00 | 354,436.00 | 354,436.00 | 0.44 |
| Bla bla bla | 67,941.60 | 54,509.69 | 54,509.69 | 54,509.69 | 54,509.69 | 54,509.69 | 1.47 |
| Bla bla bla | 17,481.57 | 14,173.09 | 14,173.09 | 14,173.09 | 14,173.09 | 14,173.09 | 0.36 |

# **CONCLUSIONS AND RECOMMENDATION**

Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla in Equation (5.1).

$1-3∙\left(1-X\right)^{\frac{2}{3}}+2∙\left(1-X\right)=1.2(FK)^{-0,080}∙\left(BB\right)^{-0,45}∙\left(IK\right)^{-0,34}∙e^{\left(-\frac{6,64}{8,314∙T}\right)}∙t$ (5.1)

Bla bla bla bla bla bla bla bla bla bla bla bla bla in Equation (5.1). Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla.

# REFERENCES

Erdik, E. and Sarıkaya, Y. 1997. Basic university chemistry, Vol I. Gazi Büro Publishing, 738 page, Ankara. *(Example for Book)*

Castillo, E., Marty, A., Condoret, J. S. and Combes, D. 1996. Enzymatic catalysis in nonconventional media using high polar molecules as substrates, In: Annals of the New York Academy of Science. Dordick, J. S. and Russell, A.J. (eds), The NewYork Academy of Science, pp. 206-211, New York. *(Example for Chapter in Book)*

Front, M. F. and Ross, J. V. US 4678–653, 1985. *(Example for Patent)*

Habulin, M. and Knez, Ž. 2001a. Activity and stability of lipases from different sources in supercritical carbon dioxide and near-critical propane. J. Chem. Technol. Biotechnol., 76: 1260-1266. *(Example for Journal)*

Habulin, M. and Knez, Z. 2001b. Pressure stability of lipases and their use in different systems. Acta. Chim. Slov., 48: 521-532. *(Example for Journal)*

Derwing, T. M., Rossiter, M. J. and Munro, M. J. 2002. Teaching native speakers to listen to foreign-accented speech. Journal of Multilingual and Multicultural Development, 23(4): 245-259. *(Example for Journal)*

Castillo, E., Marty, A., Condoret, J. S. and Combes, D. 1996. Enzymatic catalysis in nonconventional media using high polar molecules as substrates, In: Annals of the New York Academy of Science. Dordick, J. S. and Russell, A.J. (eds), The NewYork Academy of Science, pp. 206-211, New York. *(Example for Symposium or Conference)*

NOVO NORDISK, 2003. Web site. http://www.novo.dk. Date of access: 05.08.2021. *(Example for internet source)*

Öztürk, F. 1997. Kırıkkale ve Tuzgölü arasındaki bölgenin manyetik ve gravite anomalilerinin incelenmesi. MSc. Thesis, Ankara University, 78 page, Ankara. *(Example for Thesis)*

# APPENDICES

**APPENDIX 1. Bla bla bla bla bla bla bla**

**APPENDIX 2. Bla bla bla bla bla bla bla**

**APPENDIX 1. Bla bla bla bla bla bla bla**

**APPENDIX 2. Bla bla bla bla bla bla bla**

# CURRICULUM VITAE

**Personal Information**

Name and Surname : Name SURNAME

**Education**

MSc Çankırı Karatekin University

 Graduate School of Natural and Applied Sciences 2019-Present

Department of Chemical Engineering

Undergraduate Çankırı Karatekin University

 Faculty of Engineering 2015-2019

 Department of Chemical Engineering

**Work Experience**

**Year Institution Position**

2013-Present Çankırı Karatekin University,

Department of Chemistry Research Asst.

**Academic Activities**

1. (If any, a paper, article, chapter or book should be written)
1. Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla [↑](#footnote-ref-1)
2. Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla [↑](#footnote-ref-2)
3. Bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla bla (Yetiş and Çapar 2018). [↑](#footnote-ref-3)