2- Devices and Chemicals Used.

5-chloro isatin, Thiocarbohydrazone and aldehydes are provided from Sigma-Aldrich Co. Ltd. LLC. company. Deionized purity water was used in each step. C, H and O elemental analyzes and FTIR analyzes were performed in Kastamonu University Central Research Laboratory. 1H-NMR and 13C-NMR analyzes were performed in Bolu Abant University Central Research Laboratory. All solvents were used in analytical purity. Absorbances were measured by SHIMADZU UVmini-1240 UV-Visible spectrophotometer (Schimadzu Corp., Kyoto, Japan manufactures) using a pair of equivalent quartz cuvettes of 1 cm thickness at 517 nm.

Compounds synthesized in the study were examined in two stages. In the first step, the synthesis of the semifinished products was performed and the synthesized compounds are given in Table 2.1. In the second step, the final products were synthesized and the synthesized compoundsaregiveninTable2.2.
The chemical materials used in this study are as follows:

1) Thiocarbohydrazone

2) Benzaldehyde

3) 4, hydroxy benzaldhyde

4) 3,5 dimethoxy-4-hydroxyl –benzaldhyde

5) 3,ethoxy-4-hydroxyl –benzaldhyde

6) N1- 5-Chloro-2-oxoindolin-3-ylidene

7) 4-N,N, dimethly benzaldehyde

3- RESULTS AND DISCUSSION.

Some physicochemical parameters of the synthesized products are given in Table 3.1 for semi-products and Table 3.2 for final products. In addition to the structural determinations, the calculated and experimental elemental analyzes ((N), (C) and (H)%) of the compounds were performed and given in Table 3.3.

*Tablo 3.1.* Physicochemical Parameters of Synthesized Compounds (Semi-Product)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Compound (Semi Product)**  | **Molecular Weight** | **Melt Point (oC)** | **Colour** | **Resolution** | **Efficieny****(%)** |
| 1 | 194,27 | 184 | White | DMSO (+) | 74,73 |
| 2 | 210,27 | 214 | Light cream color | DMSO (+) | 74,84 |
| 3 | 254,32 | 206 | Light yellow | DMSO (+) | 76,73 |
| 4 | 270,32 | 226 | Light yellow- cream color | DMSO (+) | 79,61 |
| 5 | 237,34 | 198 | % 70 yellow- % 30 green | DMSO (+) | - |

*Tablo 3.2* Physicochemical Parameters of Synthesized Compounds (Final Product)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Compound (Final Product)**  | **Molecular Weight** | **Melt Point (oC)** | **Colour** | **Resolution** | **Efficieny****(%)** |
| 1 | 357,85 | 234 | % 80 Light brown- % 20 Yellow | DMSO (+) | 56,70 |
| 2 | 373,85 | 254 | Light orange | DMSO (+) | 82,96 |
| 3 | 417,90 | 248 | Matte yellow | DMSO (+) | 76,44 |
| 4 | 433,90 | 267 | % 30 Brown-% 10 orange-% 60yellow | DMSO (+) | 90,54 |
| 5 | 400,92 | 238 | Dark brown | DMSO (+) | 50,29 |

*Tablo 3.3.*Calculated and experimental elemental analysis of synthesized compounds

((N),(C) ve (H)%)

|  |  |  |
| --- | --- | --- |
| **Compound** | **Calculated** | **Experimental** |
| **%N** | **%C** | **%H** | **(N) %** | **(C) %** | **(H) %** |
| Son Ürünler 1 | 19,561 | 53,653 | 3,380 | 18,998 | 52,769 | 3,219 |
| Son Ürünler 2 | 18,724 | 51,357 | 3,235 | 18,312 | 50,829 | 3,193 |
| Son Ürünler 3 | 16,750 | 51,687 | 3,859 | 16,374 | 50,730 | 3,813 |
| Son Ürünler 4 | 16,132 | 49,781 | 3,716 | 15,897 | 48,153 | 3,676 |
| Son Ürünler 5 | 20,951 | 53,876 | 4,274 | 20,615 | 51,973 | 4,236 |
| \*YarıÜrünler 1 | 28,825 | 49,415 | 5,188 | - | - | - |
| \*YarıÜrünler 2 | 26,632 | 45,655 | 4,793 | - | - | - |
| YarıÜrünler 3 | 22,019 | 47,184 | 5,548 | 21,387 | 46,417 | 5,447 |
| YarıÜrünler 4 | 20,716 | 44,391 | 5,220 | 20,375 | 42,926 | 5,131 |
| \*YarıÜrünler 5 | 29,49355 | 50,560 | 6,370 | - | - | - |

\*These compounds have been synthesized previously and are available in the literature.