

## List of Tables

Table No.	Table Captions	Page No.
1.1	Classification of chemotherapeutic agents with representative drugs	7
2.1	Benzothiazole derivatives that act on enzymes/receptors.	41
4.1	Different substitutions on aryl ring of synthesized compounds (S01-20)	54
4.2	Different substitutions on aryl ring of synthesized compounds (A01-10)	55
4.3	Different substitutions on aryl ring of synthesized compounds (TB01-10)	57
4.4	Different substitutions on aryl ring of synthesized compounds (A07a, A07b, A10a and A10b)	58
4.5	Different substitutions on aryl ring of synthesized compounds (SC01-10 and TS01-10)	61
5.1	Physicochemical data of benzothiazole Schiff base hybrids (S01-20)	72
5.2	Antibacterial activity ( $\mu\text{g/mL}$ ) of the synthesized benzothiazole Schiff base hybrids (S01-20)	81
5.3	Antifungal activity ( $\mu\text{g/mL}$ ) of the synthesized benzothiazole Schiff base hybrids (S01-20)	83
5.4	Molecular docking scores of Benzothiazole Schiff Base Hybrids with GlcN-6-P synthase.	89
5.5	Theoretical prediction of different properties of novel Schiff base benzothiazole hybrids using PreADMET Server	91
5.6	PreADMET Server properties and descriptors	91
5.7	IC <sub>50</sub> ( $\mu\text{g/mL}$ ) of compounds S02, S05, Cisplatin and Paclitaxel in SKOV3, A2780-S, A2780-CR and A2780-PR cell lines	93
5.8	Docking results based on hydrophobic interaction, hydrogen bonding interaction, docking energy/ score, inhibition constant, bond length and RMSD	102

---

5.9	Percentage EGFR-TK inhibitory activity of synthesized Schiff bases ( <b>S01-S20</b> )	108
5.10	Physicochemical data of the benzothiazole amide derivatives ( <b>A01-A10</b> )	110
5.11	Antibacterial activity ( $\mu\text{g/mL}$ ) of the benzothiazole amide derivatives ( <b>A01-A10</b> )	115
5.12	Antifungal activity ( $\mu\text{g/mL}$ ) of the benzothiazole amide derivatives ( <b>A01-A10</b> ).	116
5.13	Molecular docking scores of Benzothiazole amide derivatives with GlcN-6-P synthase.	122
5.14	Theoretical prediction of different properties of Benzothiazole amide derivatives using PreADMET Server	122
5.15	IC <sub>50</sub> ( $\mu\text{M}$ ) of compounds ( <b>A01–A10</b> ) in SiHa and C33-A cell lines	124
5.16	Physicochemical data of 4-thiazolidinones-benzothiazole conjugates ( <b>TB01-10</b> )	136
5.17	Antibacterial activity ( $\mu\text{g/mL}$ ) of 4-thiazolidinone benzothiazole derivatives ( <b>TB01-10</b> )	141
5.18	Antifungal activity ( $\mu\text{g/mL}$ ) of the 4-thiazolidinone benzothiazole derivatives ( <b>TB01-10</b> )	142
5.19	Molecular docking scores of 4-thiazolidinone benzothiazole derivatives with GlcN-6-P synthase.	148
5.20	Theoretical prediction of different properties of 4-thiazolidinone benzothiazole derivatives using PreADMET Server	148
5.21	Physicochemical data of Oxime and Hydrazone derivatives of Benzothiazole ( <b>A07a, A07b, A10a and A10b</b> )	150
5.22	Antibacterial activity ( $\mu\text{g/mL}$ ) of Oxime and Hydrazone derivatives of benzothiazole ( <b>A07a, A07b, A10a and A10b</b> )	152
5.23	Antifungal activity ( $\mu\text{g/mL}$ ) of the Oxime and Hydrazone derivatives of benzothiazole ( <b>A07a, A07b, A10a and A10b</b> )	153
5.24	Molecular docking scores of Oxime and Hydrazone derivatives of benzothiazole with GlcN-6-P synthase	157

---

5.25	Theoretical prediction of different properties of Oxime and Hydrazone derivatives of benzothiazole using PreADMET Server	158
5.26	Physicochemical properties of Semicarbazone and Thiosemicarbazone derivatives of Benzothiazole ( <b>SC01-10</b> ) and ( <b>TS01-10</b> )	160
5.27	Antibacterial activity ( $\mu\text{g/mL}$ ) of the synthesized semicarbazone and thiosemicarbazone derivatives of benzothiazole ( <b>SC01-10</b> and <b>TS01-10</b> )	170
5.28	Antifungal activity ( $\mu\text{g/mL}$ ) of the synthesized semicarbazone and thiosemicarbazone derivatives of benzothiazole ( <b>SC01-10</b> and <b>TS01-10</b> )	171
5.29	Molecular docking scores of semicarbazone and thiosemicarbazone derivatives of benzothiazole with GlcN-6-P synthase.	184
5.30	Theoretical prediction of different properties of novel Semicarbazone and Thiosemicarbazone derivatives of benzothiazole using PreADMET Server.	185

---