ABSTRACT

The synthesis of the desired benzamide derivatives was accomplished in two stages. Initially, substituted anilines (**1a, 1b**) reacted with 3-(chloromethyl) benzoyl chloride (**2**) in an aqueous sodium carbonate solution, maintaining the pH between 9 and 10. The reaction mixture was vigorously shaken for approximately 45 minutes, with progress monitored by TLC. To get purified *N*-(substituted-phenyl)-3-(chloromethyl) benzamides, the resulting precipitates were cleaned and dried (**3a,3b**). In the second stage, *N*-phenylpiperazine (**4**) was activated in dimethylformamide with the addition of LiH, and the stirring was carried out for 30 minutes. Following the addition of the freshly synthesized electrophiles (**3a–3b**), one for each reaction, the mixture was stirred for 17–18 hours at ambient temperature. The progression of the reaction was monitored using TLC until just a single spot remained visible. The final products, 3-[(*N*-phenylpiperazinyl)methyl]-*N*-(dimethylphenyl)benzamides (**5a**-**5b**), were acquired when quenching the reaction with cold water, as illustrated in scheme-1. Their structures were then inferred using spectrum methods. The compounds were characterized by ^{1}H-NMR and ^{13}C-NMR, with both analyses conducted in DMSO-d_6 using a 600 MHz spectrometer. Tyrosinase inhibition activity was also evaluated, and both compounds (**5a, 5b**) demonstrated excellent results.