CHAPTER 8

CONCLUSION
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Three new series of substituted pyrazolo[4,3-c]cinnolines and fluorocinnolone derivatives were synthesized with the objective of developing new anti-inflammatory-antibacterial agents with minimum gastric irritation and new antimicrobials with improved safety margin. Compounds XVII and XXX were found to be potent anti-inflammatory agents with a percent inhibition of 74.67 ± 1.56 and 80.01 ± 2.41, respectively. Compound XXX displayed stronger binding interactions with the active site of the human COX-2 enzyme than compound XVII with good safety profile. However, both of these derivatives did not show specific antibacterial activity against all of the tested strains. Compound XLV emerged as potent anti-inflammatory-analgesic agent with 79.23% inhibition and 68.72% protection among all the tested compounds. Compounds LII and LXVIII were found to be the most active antibacterial agents in the present study. Compounds LXII and LXXVI showed marked inhibition against all the tested fungal strain. Moreover, Compounds XV emerged as a potential dual anti-inflammatory-antibacterial agent with improved safety profile.

Therefore, it can be safely concluded that the designed compounds having pyrazolo[4,3-c]cinnoline framework would constitute a fruitful model for further investigation in the development of a new class of dual non-acidic anti-inflammatory-antibacterial and antimicrobial agents.