

THE UNIVERSITY OF WESTERN ONTARIO  
SCHOOL OF GRADUATE AND POSTDOCTORAL STUDIES

CERTIFICATE OF EXAMINATION

Supervisor



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The thesis by

Heba Soliman Barnawi

Entitled:

**Structural and functional studies of the heptose modifying enzymes that play a role  
in *Campylobacter jejuni* virulence.**

Is accepted in partial fulfillment of the  
requirements for the degree of  
Master of Arts

Date Jan. 15, 2016

  
Chair of the Thesis Examination Board