

The main topic of this thesis was preparation of  $\alpha$ -alkyliden- $\beta$ -lactams and their use in cross metathesis in a presence of transition metal catalyst. Kinugasa reaction as well as Morita-Baylis-Hillman derivatives were used for preparation of lactams.  $\alpha$ -alkyliden- $\beta$ -lactams were used in reactions with aliphatic alkenes and for study of substituent electronic effect on lactams in cross metathesis step. The formal total synthesis of Ezetimibe was also developed in this work.