Bulk viscous universe in modified gravity

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A Friedmann model of the universe with bulk viscous matter and radiation as the cosmic components in modified gravity is studied. We study the asymptotic behavior of the universe by considering the three cases for the bulk viscous coefficients as (i) $\xi = \xi_0 + \xi_1 \frac{\dot{a}}{a} + \xi_2 \frac{\ddot{a}}{\dot{a}}$, depending on both the velocity and acceleration of the expansion of the universe. (ii) $\xi = \xi_0 + \xi_1 \frac{\dot{a}}{a}$, depending only on velocity of the expansion of the universe and not on its acceleration. (iii) $\xi = \xi_0$, a constant. It is found that all the three cases predict the late acceleration of the universe.