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New technology of nucleoside AIDS virus resistance drug key intermediate diethyl (tosyloxy) methylphosphonate

Rahul Hajare and Ramesh Paranjape

¹Rajgad Dnyanpeeth's College of Pharmacy, India²National AIDS Research Institute, India

A bioprocess is composed mainly of three stages i.e., upstream processing, bio-reaction and downstream processing to convert raw material to pure finished product. Cost-effective auto bioreactor laboratory device of nucleoside AIDS virus resistance drug key intermediate diethyl (tosyloxy) methylphosphonate, which a chemical process is carried out by agitator to form perfect homogeneous condition for better transport of diethyl phosphite part and paraformaldehyde in required quantity as raw material is placed in water to react for 1-2 hours under the temperature ranging from 50-55°C, the reaction is completed in separate matrix vessel and room temperature is maintained to prepare the diethyl (hydroxymethyl) phosphate. Then transport diethyl (hydroxymethyl) phosphate as a raw material was added to paratoluensulfonyl chloride, taking an acid binding agent as a catalyst (ammonia) to react for 4-5 hours under the temperature ranging from 50-55°C in a mixing vessel with supportive baffle to avoid undesirable changes to the center of gravity of the system and to reduce the consumption of additional power. The new technology has short reaction time, high production yield coefficient, little environment pollution and the obtained product has high purity. No bubbling and foaming was observed due to separate matrix and mixing vessel, and low shear stress reducing debris. The new bioreactor technology can also reduce the CO₂ emission.

rahulhajare@rediffmail.com

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