ATOM TRANSFER GRAFT COPOLYMERIZATION OF
2-ETHYL HEXYLACRYLATE FROM LABILE CHLORINES
OF PVC IN AQUEOUS SUSPENSION

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Copper mediated ATRP is applicable for graft copolymerization of 2-ethyl hexylacrylate from labile chlorines of PVC in aqueous suspensions, with $\alpha$-methyl cellulose as stabilizer.

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\begin{align*}
\text{Cl}_n + \text{O} \equiv \text{OR} & \xrightarrow{\text{CuBr . L . 90}^\circ\text{C}} \text{Cl}_{n-x} \text{CH}_2 \text{CH} \equiv \text{CH}_2 \text{CH}_2 \text{CH}_2 \text{CH}_2 \text{CH}_3 \\
\text{R:} & \quad \text{y/n} = 0.05 - 0.5
\end{align*}
\]

Although kinetics of the reaction deviates from first order at high conversions, reasonable graft yields (146%) can be attained within 24 h, at $90^0\text{C}$ without using additional solvent.

References