

Tar-free and benzo[a]pyrene-free hydrothermal liquefaction of bamboo and antibacterial property of recovered vinegar

ABSTRACT

Bamboo, which was treated using superheated steam controlled at a low temperature range, gave tar-free and benzo[a]pyrene-free vinegar. The vinegar's selective antibacterial activity against *Staphylococcus aureus* concerned with the atopic dermatitis and *Bacillus cereus* causing food poisoning in humans was confirmed, while no effect was found against *Escherichia coli* and *Bacillus subtilis* as being indigenous bacteria in natural environments.