

N°717 / OC / PC

TOPIC(s) : Waste valorization / Biomass conversion

Valorization of agrobusiness wastes: cashew nuts

AUTHORS

Michäele MIARINTSOA RANARIJAONA / LABORATOIRE INTERNATIONAL ASSOCIÉ ANTANANARIVO-LYON 1, FACULTÉ DES SCIENCES, UNIVERSITÉ D'ANTANANARIVO, 1 RUE VICTOR GRIGNARD, VILLEURBANNE

PURPOSE OF THE ABSTRACT

The Laboratoire International Associé/Universités d'Antananarivo-Lyon1 has always worked, since its creation in 2011, on waste and biomass in order to transform them into higher value-added products on the one hand and for ecological reasons on the other hand. The two examples that we will show here concern industrial ecology on transformation of cashew nut shells and Mauritius hemp into biodegradable polymers, plasticizers and surfactants.

The cashew nut is produced at about 5000 T / year in Madagascar or 0.1% of world production. The seed consisting of almond and shell represents 15% of the weight of a fresh fruit. We have extracted from these shells a liquid called "Cashew nut shell liquid" or CNSL, one of few sources of natural phenols from which we have synthesized biodegradable plasticizers, surfactants, monomers and polymers using economically and ecologically acceptable technology.

FIGURES

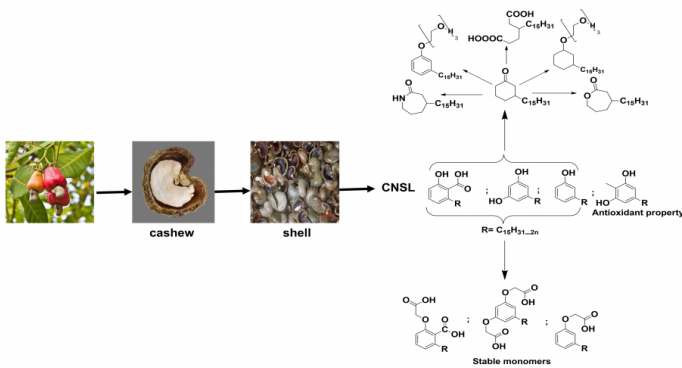


FIGURE 1

From cashew nut shell to chemicals

From cashew nut shell to chemicals

FIGURE 2

KEYWORDS

Cashew nut shell liquid | Cyclohexanone | monomer | oxidation

BIBLIOGRAPHY

Rahobinirina A. I., Finaritra Rakotondramanga M. F. Berlioz-Barbier A., Méta y E., Voahangy Ramanandraibe V., Marc Lemaire M. Tetrahedron Letters 58 (2017) 2284–2289.