



US 20090324727A1

(19) **United States**

(12) **Patent Application Publication**
Foguet Roca

(10) **Pub. No.: US 2009/0324727 A1**

(43) **Pub. Date: Dec. 31, 2009**

(54) **NANOEMULSION**

Publication Classification

(75) Inventor: **Montserrat Foguet Roca,**
Leverkusen (DE)

(51) **Int. Cl.**
A61K 9/14 (2006.01)
A61K 47/10 (2006.01)
A61K 31/195 (2006.01)
A61P 17/02 (2006.01)

Correspondence Address:
SUTHERLAND ASBILL & BRENNAN LLP
999 PEACHTREE STREET, N.E.
ATLANTA, GA 30309 (US)

(52) **U.S. Cl. 424/489; 514/772; 514/561**

(57) **ABSTRACT**

(73) Assignee: **BIOFRONTERA BIOSCIENCE**
GMBH, Leverkusen (DE)

The present invention relates to a nanoemulsion comprising at least one aqueous component and a carrier, wherein the carrier comprises at least one lipophilic component, at least one surfactant and at least one alcohol, characterised in that at least one alcohol has at least three carbon atoms. The present invention further relates to a composition comprising said nanoemulsion and an active agent. In particular, the composition is present as a gel and the active agent is 5-aminolevulinic acid, a derivative, precursor and/or metabolite thereof. The invention further relates to the preparation of said nanoemulsion and/or composition and to their use for the treatment of dermatological diseases, virus-associated diseases as well as diseases associated with cell proliferation, in particular, tumor diseases and/or psoriasis. The present invention is further directed to the use of said nanoemulsion in cosmetics.

(21) Appl. No.: **12/520,759**

(22) PCT Filed: **Dec. 21, 2007**

(86) PCT No.: **PCT/EP07/11404**

§ 371 (c)(1),
(2), (4) Date: **Jun. 22, 2009**

(30) **Foreign Application Priority Data**

Dec. 22, 2006 (EP) 06026698.8

Biofrontera Exhibit 1009
Biofrontera Inc. et al. v. DUSA Pharmaceuticals, Inc.
IPR2022-00056

Fig. 1

GAUSSIAN SUMMARY:

Mean Diameter = 32.2 nm
Std. Deviation = 18.8 nm (58.3%)
Norm. Std. Dev. = 0.583
(Coeff. of Var'n)

Variance (P.I.) = 0.340
Chi Squared = 3.022
Baseline Adj. = 0.000 %
Z-Avg. Diff. Coeff. = 1.44E-007 cm²/s

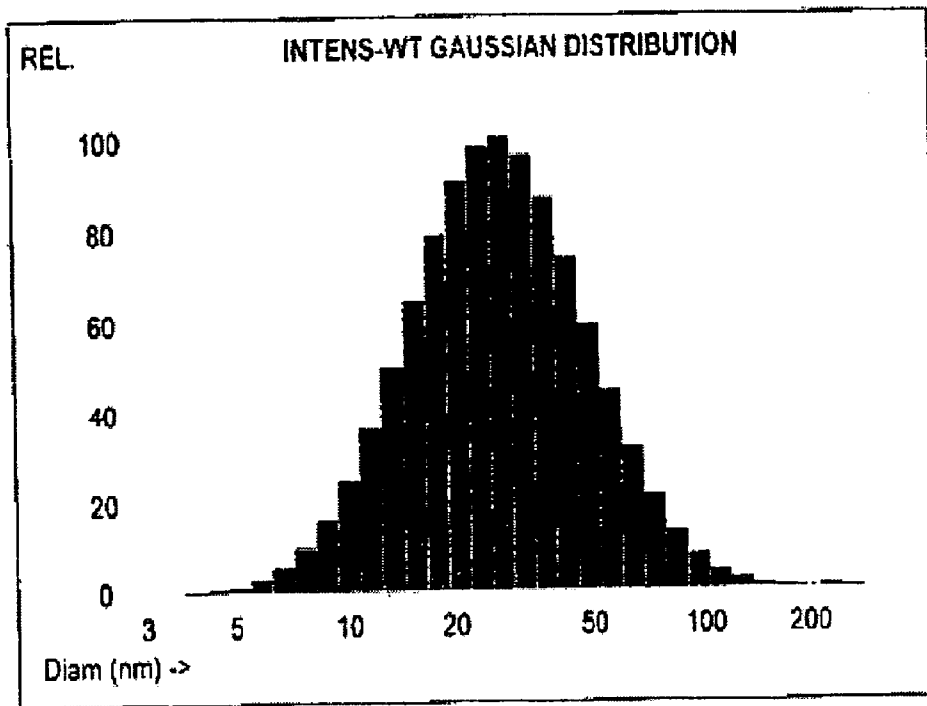


Fig. 2

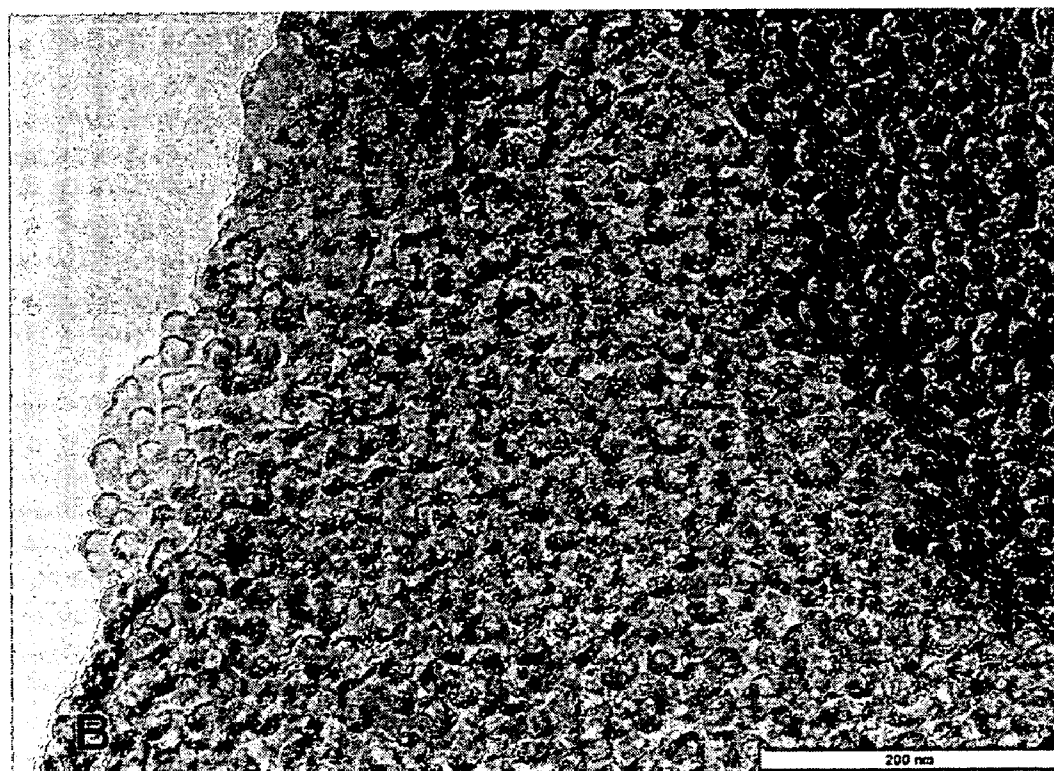
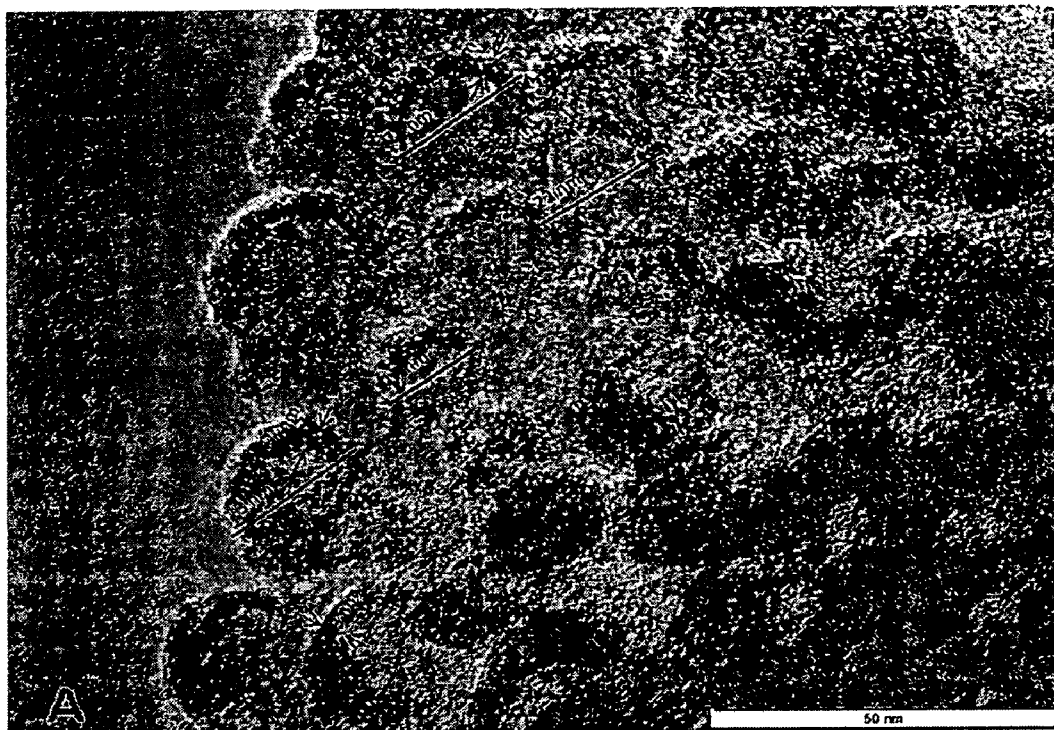


Fig. 3

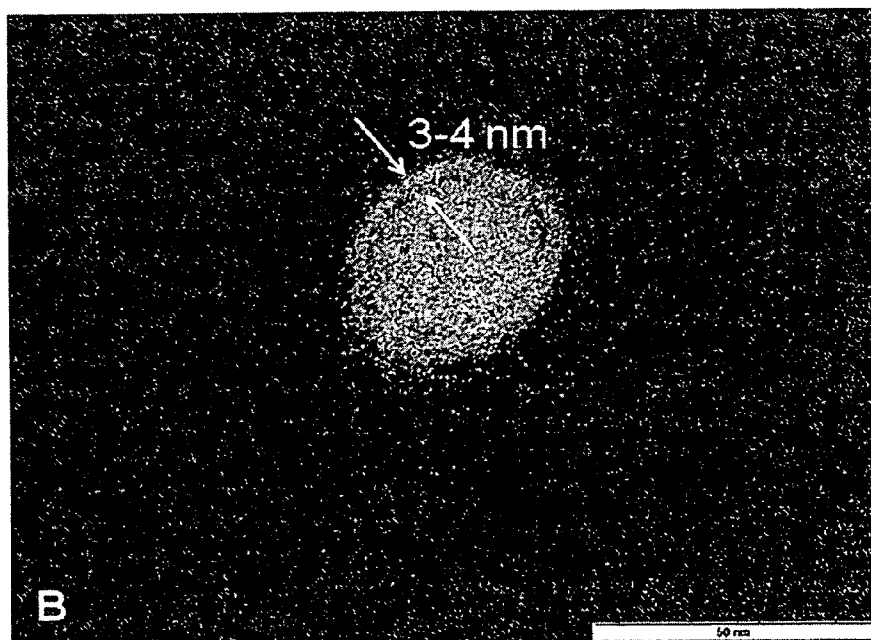
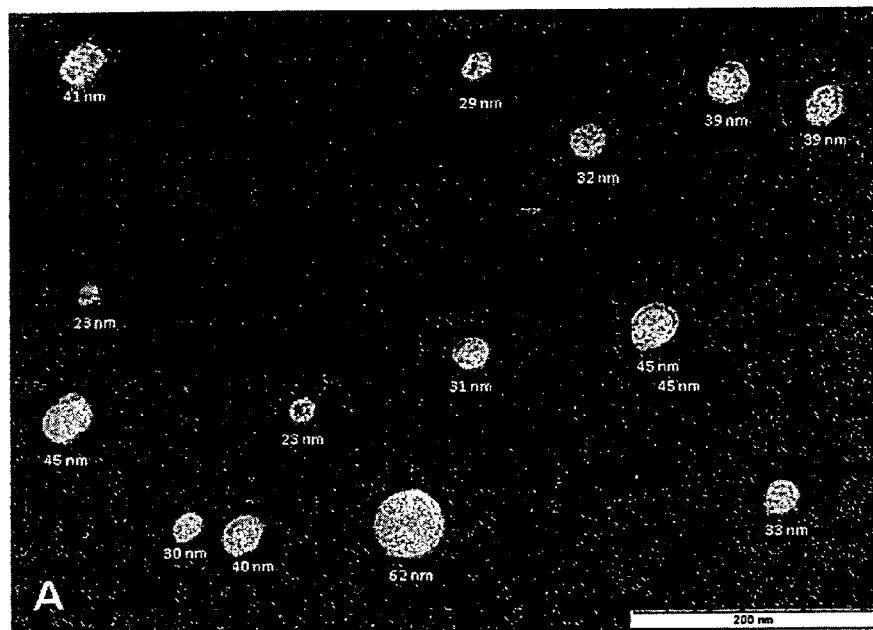
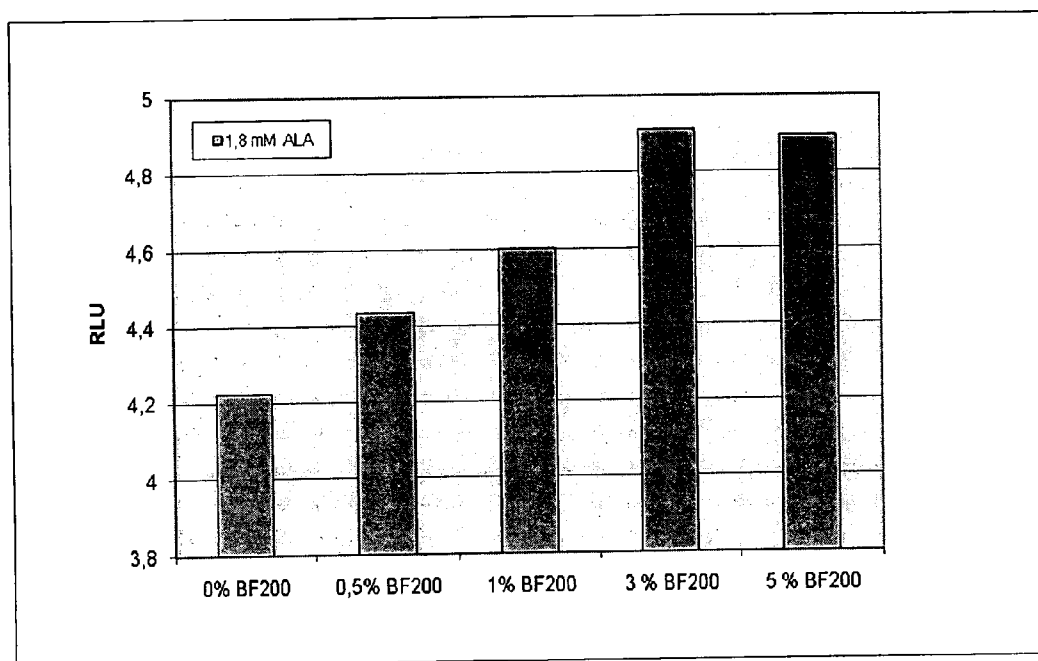


Fig. 4



Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.