tion isotherms were obtained, using a model independent method. The results show that the binding constants of these peptides with zwitterionic and anionic bilayers are respectively, $FR13-2$ $(28000 \pm 4000)M^{-1}$ and $(11000 \pm 100)M^{-1}$, $FR13-1$ $(8200 \pm 1000)M^{-1}$ and $(116000 \pm 2000)M^{-1}$, Protonectarina-MP $(5500 \pm 70)M^{-1}$ and $(179000 \pm 5000)M^{-1}$ and Parapolybia-MP $(640 \pm 3)M^{-1}$ and $(86000 \pm 2400)M^{-1}$. These data show an inverse relationship between peptides net charge and their respective partition constants in zwitterionic membranes, while in anionic membranes there is a direct correlation. Parapolybia-MP is the only exception, suggesting that the same structural reasons that lead to an aggregated state in anionic bilayers influence its partition constant in this environment. Zeta potential measurements showed that the accumulation of peptide molecules at the anionic vesicles surface decreases in the following order: $Parapolybia-MP > Protonectarina-MP > FR13-1 > FR13-2$, and with the zwitterionic vesicles there is no significant difference among their Zeta potentials. Experiments of fluorescence anisotropy of the hydrophobic probe diphenilhexatriene showed that the four peptides do not induce expressive changes in the fluidity of these lipidic bilayers. In addition, experiments of quenching of tryptophan fluorescence emission by acrilamide also indicated a similar insertion of the four peptides in the hydrophobic region of the model membranes. We observed that these peptides are highly selective for anionic bilayers and interacted weakly with the zwitterionic, independently of their net charge. Support: CAPES, CNPq, FAPESP

[12/05/09 - P092]
Characterization of escherichia colli by using FT-IR microspectroscopy, Inglid Fontoura, Kumiko Koibuchi Sakane, Maria Angélica Gargione Cardoso, Sônia Khouri, Mituo Uehara, Airton A. Martin, *Universidade do Vale do Paraíba* ■ Aiming at characterizing the microorganism Escherichia coli through its Infrared Absorption Spectrum, samples were prepared with cultures of this microorganism. The inoculum was prepared according to McFarland scale at 0,5 and plated on Drigalsky handled surface in Mueller-Hinton Agar and incubated for 6 and 24 hours at 37 °C. In order to obtain the samples, different techniques were used, such as: saline solution 0.9%, distilled water and stamp. Saline solutions 0.9% at different concentrations of Escherichia coli were prepared. The samples in solution were homogenized by vortex, put in CaF_2 windows and incubated in stove at 50 °C for 1 hour for obtaining the biofilm. The spectra were obtained by transmittance through a microspectroscopy (Spotlight 400) attached to a spectrophotometre FT-IR (Perkin-Elmer). The spectra and microscopic images of the biofilms were obtained in the range 4000-1000 cm^{-1}. It was observed that the quality of the infrared spectra and images strongly depends on the method of preparation of the biofilms. Those obtained from saline solutions present better results regarding spectra and images. Characteristic bands of fatty acids on the cellular membrane, amide I and amide II bands from proteins and peptides were identified. It was observed that the ratio between the band intensities corresponding to amid II and I increases with the culture time. These results will be used to promote the identification of bacteriologic strains through infrared spectroscopy.

[12/05/09 - P093]
Thermal response of bovine dentin during LED irradiation., Andre G De Vito, , Carlos Francci, Mauricio N Gomes ., *Faculdade de Odontologia, USP, São Paulo, Brasil*, Thiago M Pereira, Denise M Zezell., *Instituto de Pesquisas Energéticas e Nucleares, IPEN-CNEN/SP, São Paulo, Brasil*, Rafael R Moraes, *Odontologia de Piracicaba, Unicamp, Piracicaba, Brasil* ■ The goal of this work was to study temperature behavior in a patronized cavity prepared in bovine dentin during several source LEDS irradiations. This study was used 15 commercials photopolimerizers: Smart Lite, Dentsply (SL); Radii Plus, SDI (RP); Elipar Freelight 2, 3M ESPE (EP); LE Demetron, Demetron (LD); Celalux, Voco (CL); Ultralume 5, Ultradent (UT); Bluephase G2, Ivoclar (BP); Flashlite, Discus (FL); Ultralight III, Sanders (UL); LEC 470II, MM Optics (LE); Biolux, Bioart (BL); Ultra Blue, DMC (UB); Blue Star, Microdont (BS), Mais, New Image (MS) e Demi, Kerr (DM, Optilux 501, Demetron (OP).Class V cavities were prepared on 170 bovine teeth patronizing 1 mm dentin thick on the botton. The irradiation time was 40 s for all source. the spectral irradiance of all LEDS were measured on a radiometer (L.E.D. Radiometer, Kerr) and a spectrometer (Ocean Optics, 1000); the fast infrared camera (SC3000, FLIR) was used to measure the temperature increase during all LED irradiation.The ANOVA and Tukey test with 5 percente significance was used to test if there is any differentiate among the heating resulting from the different sources of irradiation. the mean of temperature increase. The (UB) showed the lowest increase temperature(2,8 ± 0,4) and the highest values were shown on (SL) 11,25 ± 1,27 oC and (BP) 10,64 ±1,13 oC. the safety temperature is considere to be no more than 10 ^oC, in order to preserve the periodontal tissue 1.according to the results of their study only dentsplay and ivoclear can not be used during the 40 s of irradiation, being potencialy harmifull for the pulp. Acknowledgements:CEPID/FAPESP,CNPQ, PROCAD/CAPES.
Zach, L.eG. Cohen. Pulp Response to Externally Applied Heat. Oral Surgery Oral Medicine Oral Pathology Oral Radiology and Endodontics, v.19, n.4, p.515. 1965.

PHASE TRANSITIONS AND CRITICAL PHENOMENA / SOFT MATTER

[12/05/09 - P094]
Hard core lattice gases in triangular and hexagonal lattices, Heitor C. Marques Fernandes, , Luiz Alberto de M. Salcedo, Jeferson J. Arenzon, Yan Levin, *UFRGS-RS-Brasil, UFRGS-RS-Brasil, UFRGS-RS-Brasil, UFRGS-RS-Brasil* ■ Recently, lattice gases of particles with varying extended hard cores on two-dimensional square lattices have been studied [1] using Monte Carlo simulations. Interestingly, in the cases when each particle excludes all neighbors up to second (2NN) or fourth (4NN) nea-