that *Photomogetom crispus* has different functional groups which can react with ethidium bromide. This study demonstrated that the *Photomogetom crispus* could be used as an effective biosorbent for the treatment of mutagenic ethidium bromide. However *Photomogetom crispus* biomass is low cost natural abundant biomass and it may be alternative to more costly materials such as activated carbon. This research was supported by Cukurova University research found Project No: FBE2013YL2.

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Biogas production from organic wastes: Effect of temperature

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Renewable energy is an alternative energy sources against to fossil fuel. New biotechnologic techniques develops for the effective bioenergy production. In this study, effect of temperature and biomass combinations were determined on biogas yield and biogas gas composition by using lab scale anaerobic digester. Biogas yield of cattle manure 9, 15 and 21 L at 18, 30 and 40 °C, respectively. Effect of temperature on biogas production shows that, increasing of the temperature increased biogas yield and changed gas composition. The percentage value of biogas composition at 18 °C 51% CH4, 45% CO2 and 1500 ppm H2S were changed as at 40 °C 63% CH_4, 31% CO_2 and 900 ppm H_2S, respectively. The biogas yield increase with substrate mixing with waste potatoes as from 21 to 28 L biogas. However biogas composition was changed as 65% CH_4, 32% CO_2 and 1000 ppm H_2S. Energy plant, waste organic pollutants are important sources for the energy production. Temperature is important parameter for the conversion of the biomass to biogas for this reason temperature control very useful to gain high amount of biogas.

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Adsorption of the Coomassie Brilliant Blue (BBC) onto apricot stone activated carbon: Kinetic and thermodynamic study

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An activated carbon derived from an agricultural solid waste (apricot stones) is used for the removal from aqueous solutions of the Coomassie Brilliant Blue (CBB), an acid dye largely used in the textile industry. The apricot stone activated carbon (ASAC) was first characterized and then used in batch mode for the removal of the CBB. The study was undertaken in order to optimise experimental parameters such as pH, adsorbent dosage, particle size, initial dye concentration, stirring speed and contact time on the removal efficiency. It was observed that under optimized conditions up to 10.09 and 98.022 mg/g could be removed from solution onto ASAC respectively at 22.5 and at 50 °C. A kinetic study was also investigated by using several models. It was found that the adsorption of the CBB onto ASAC obeyed pseudo-second order kinetic model. A thermodynamic study indicated that the adsorption is controlled by chemisorption process (E_a: 66.161 kJ/mol) and that the adsorption phenomenon is exothermic ($\Delta H^\circ = -55.088$ kJ/mol) and spontaneous ($\Delta G^\circ = -15.21$ and -19.27 kJ/mol).

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Long term inhalation exposure of crude oil cause increasing of ALT and AST level in rats

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Intensive oil production in the Republic of Kazakhstan is accompanied by serous pollution of environment in those areas. The experiments on long-term inhalation exposure of oil (Tengiz oilfield) were performed using adult laboratory rats, between 200 and 250 g. Exposure was performed in special chamber for 1 h in concentrations of 1 mg/l, 10 mg/l and 100 mg/l for 1, 3 and 6 months. The liver function was assessed by measuring the level of alanine aminotransferase (ALT) and aspartate aminotransferase (AST) activity by colorimetric assay. There was no significant increase of ALT and AST levels in rats exposed to oil vapors in concentration of 1 mg/l for 3 and 6 months, but those were increased in 2.09 and 2.54 times (ALT) and in 1.19 and 1.33 times (AST) for 3 and 6 months of 10 mg/l oil vapors exposure consequently. Similarly, exposure for 3 and 6 months in concentration of 100 mg/l caused increase of ALT level in 2.54 and 2.82 times when compare to control groups. The increased levels of ALT and AST evidence a liver damage caused by long-term oil inhalation, thus directing investigation of oil potential hepatotoxic effects and health activities in areas of intensive oil production.

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DNA heterogenity in the Cannabis population of Chui valley

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C. sativa and *C. ruderalis* grow in Chui valley. During last years the search of markers was directed to a primary level, directly to the DNA level. PCR analysis was chosen for identification of

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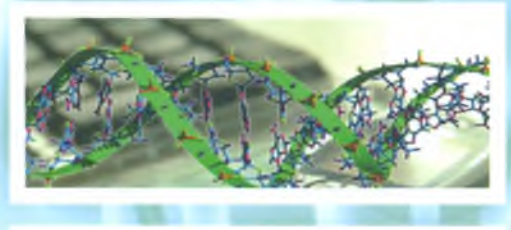

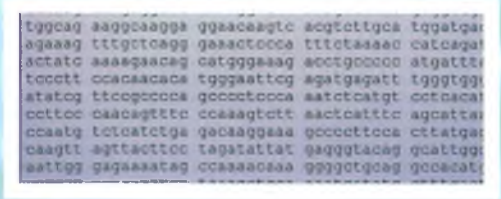

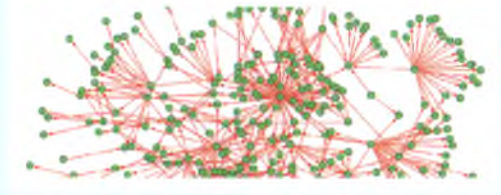

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