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|  | **Lab Procedure:**  ***Note***: This was the procedure we used in collecting our data. Please read the entire procedure before starting as their are several time intensive and sensitive steps that  must be completed properly to receive any quantifiable results.  **Gather materials and test samples**.  Collect different species of algea from similar areas.  Gather pipettes, filter paper, and sealable test-tubes.  A graduated cylinder is also needed.  **Dictyoneurum (scale=15cm)**  **Dictyopteris (scale=5cm)**  **Egregia (scale=2cm)**  **Gelidium (scale=2cm)**  **Gigartina (scale=5cm)**  **Ulva (scale=1cm)**  **Macrocystis (scale=5cm)**  **Pterogophora (scale=5cm)**  **Extract the solutions.**  Separate the algea and mass each sample.  Divide each sample into 4 equal parts.  Grind or mill a sample into a fine grit.  Clean the grinding instrument with distilled water and dry.  Repeat the previous steps for all samples.  Place the ground samples into individual test tubes.  Label each test tube.  Place a different solvent in each of the 4 test tubes for each sample.  Wait for about a day, and add additional solvent if required.  **Prepare test samples**.  Place filter paper over a graduated cylinder, like a funnel.  Pour out a solution from the test tubes into a graduated cylinder.  Record the amount, then dip small filter paper disks into the solution.  Wash the graduated cylinder with the appropriate solvent and dry.  Evaporate the solvent by letting the paper disks sit in a dry spot.  Repeat these steps for each sample.  **Testing the samples.**  Prepare petri dishes for bacterial colonization. (E. coli, in our experiment)  Wait several days for the bacteria to settle down.  Place all of the filter paper disks with the same solvent into a petri dish.  Take care that the paper is not dry, this could inhibit bacterial growth.  Add a little distilled water to moisten each disk to prevent this.  Repeat for all solvents.  Prepare ampicillin as a control.  Create a concentration gradient for comparion  Start with 100 micrograms of ampicillin in a 100 milliliters of water.  Repeat nine times.  Dilute the solutions to get equivalents of 45, 35, 30, 25, 20, 15, 10, 5 microgm.  (Ex. To get 25 mg, double the volume of water.)  Dip a filter paper disk into a solution  Place in a petri dish.  Repeat for each solution placing each disk into the same dish.  The last filter paper will be dipped into distilled water.  Wait for about a day and record your results. |

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