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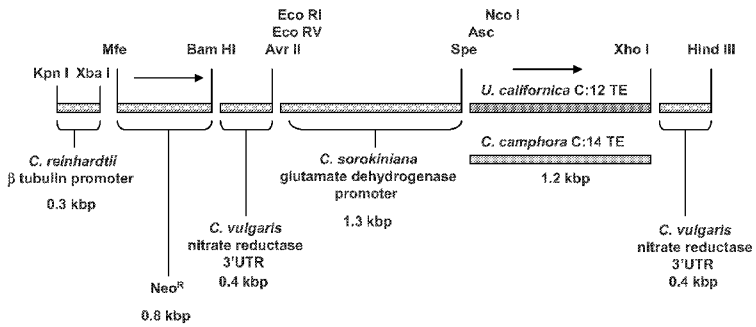
(54) **Title**: MANUFACTURING OF TAILORED OILS IN RECOMBINANT HETEROTROPHIC MICROORGANISMS

Figure 12



(57) **Abstract**: Methods and compositions for the production of oil, fuels, oleochemicals, and other compounds in Prototheca are provided, including oil-bearing microorganisms and methods of low cost cultivation of such microorganisms. Prototheca cells containing exogenous genes encoding, for example, a lipase, a sucrose transporter, a sucrose invertase, a fructokinase, a polysaccharide-degrading enzyme, a fatty acyl-ACP thioesterase, a fatty acyl-CoA/aldehyde reductase, a fatty acyl-CoA reductase, a fatty aldehyde reductase, a fatty aldehyde decarbonylase, and/or an acyl carrier protein are useful in manufacturing transportation fuels such as renewable diesel, biodiesel, and renewable jet fuel.

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