

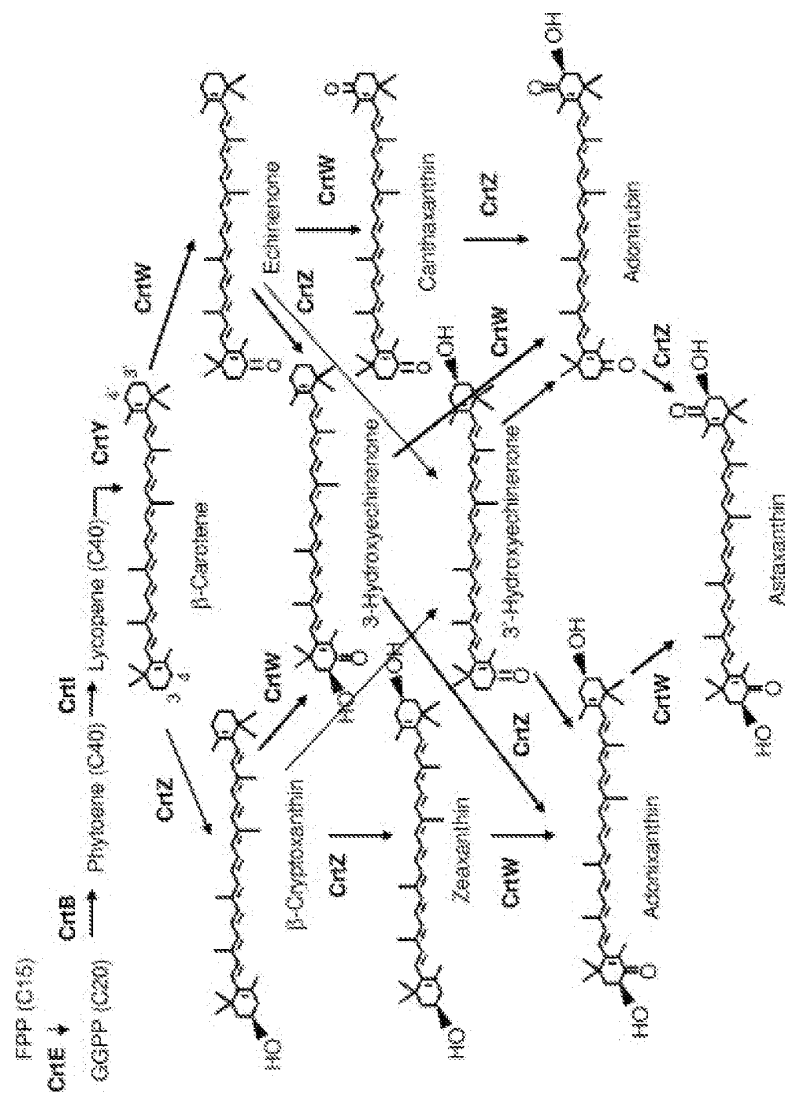


FIGURE 1 (Prior Art)

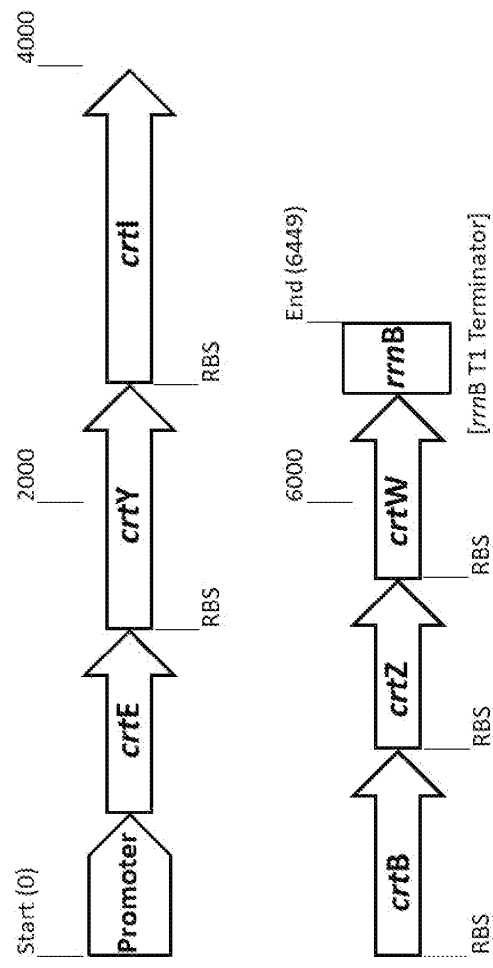


FIGURE 2. System 1 astaxanthin operon.

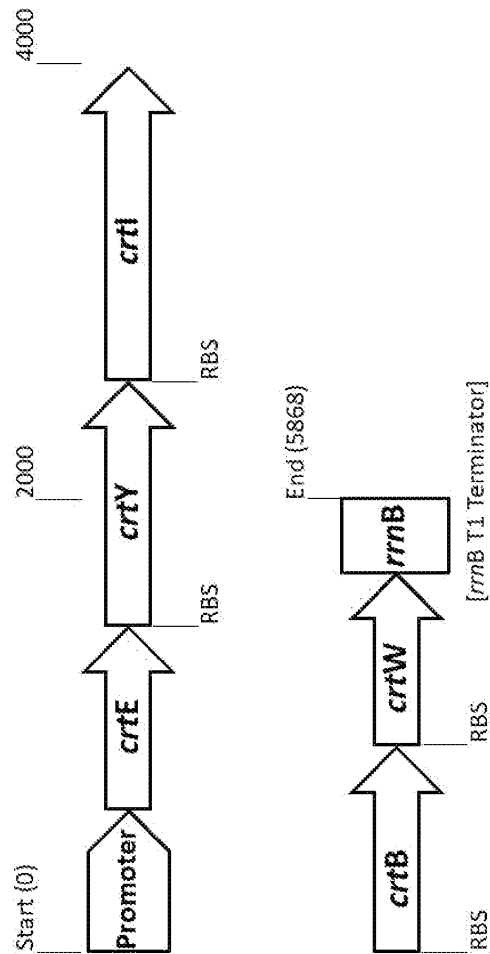


FIGURE 3. System 2 canthaxanthin operon.

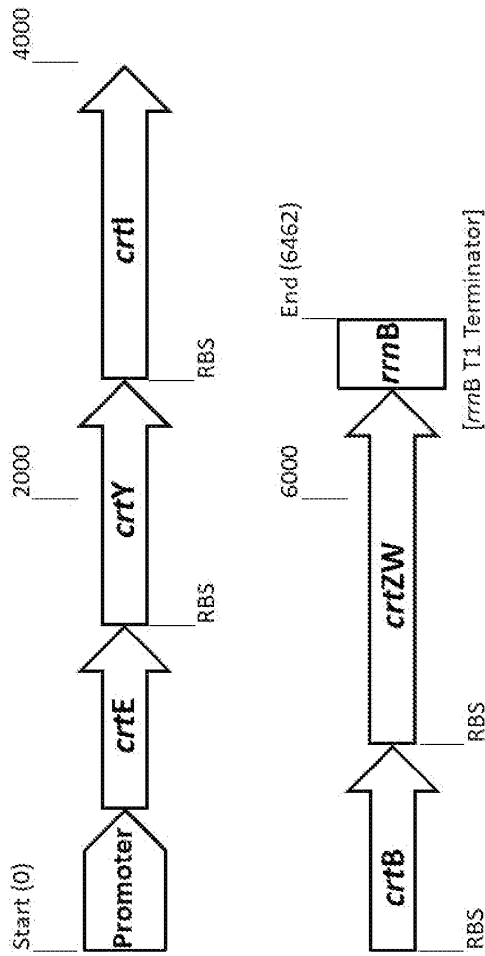


FIGURE 4. System 3 astaxanthin operon with *crtZW* fusion gene.

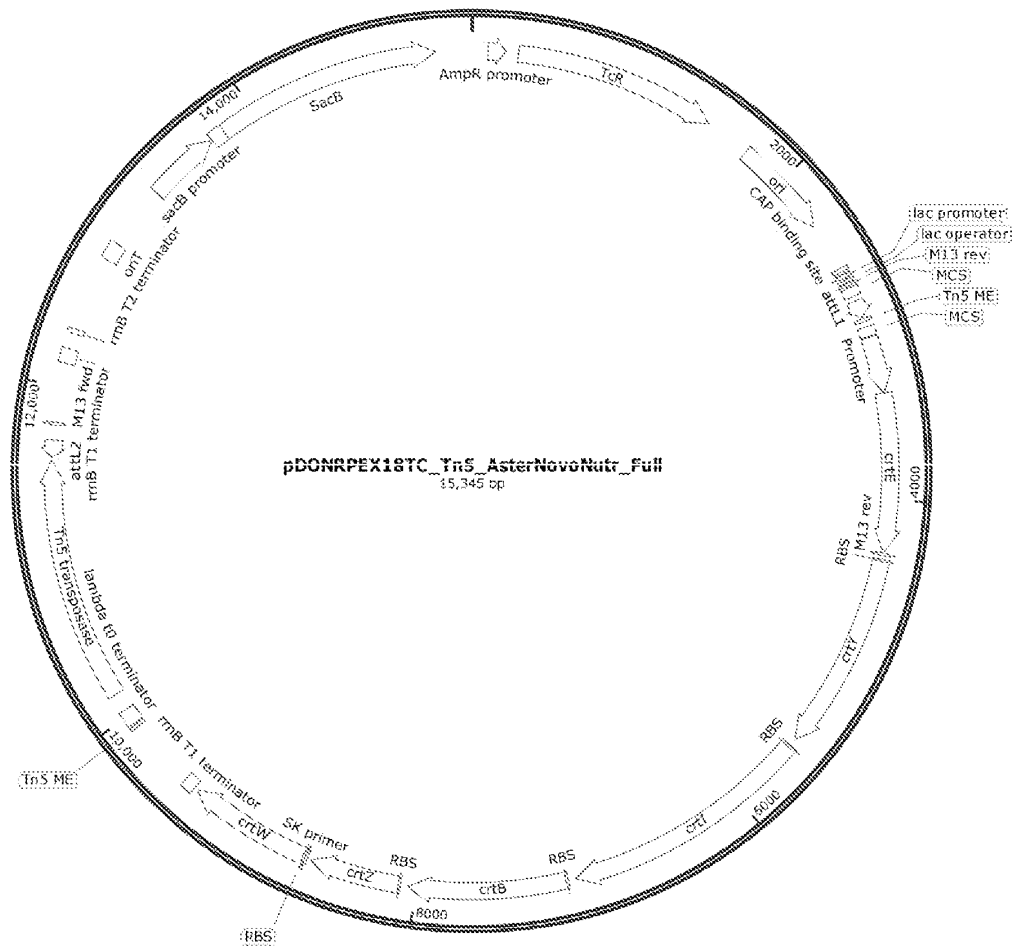


FIGURE 5. Map of complete Tn5 transposon-suicide vector construct for astaxanthin production.

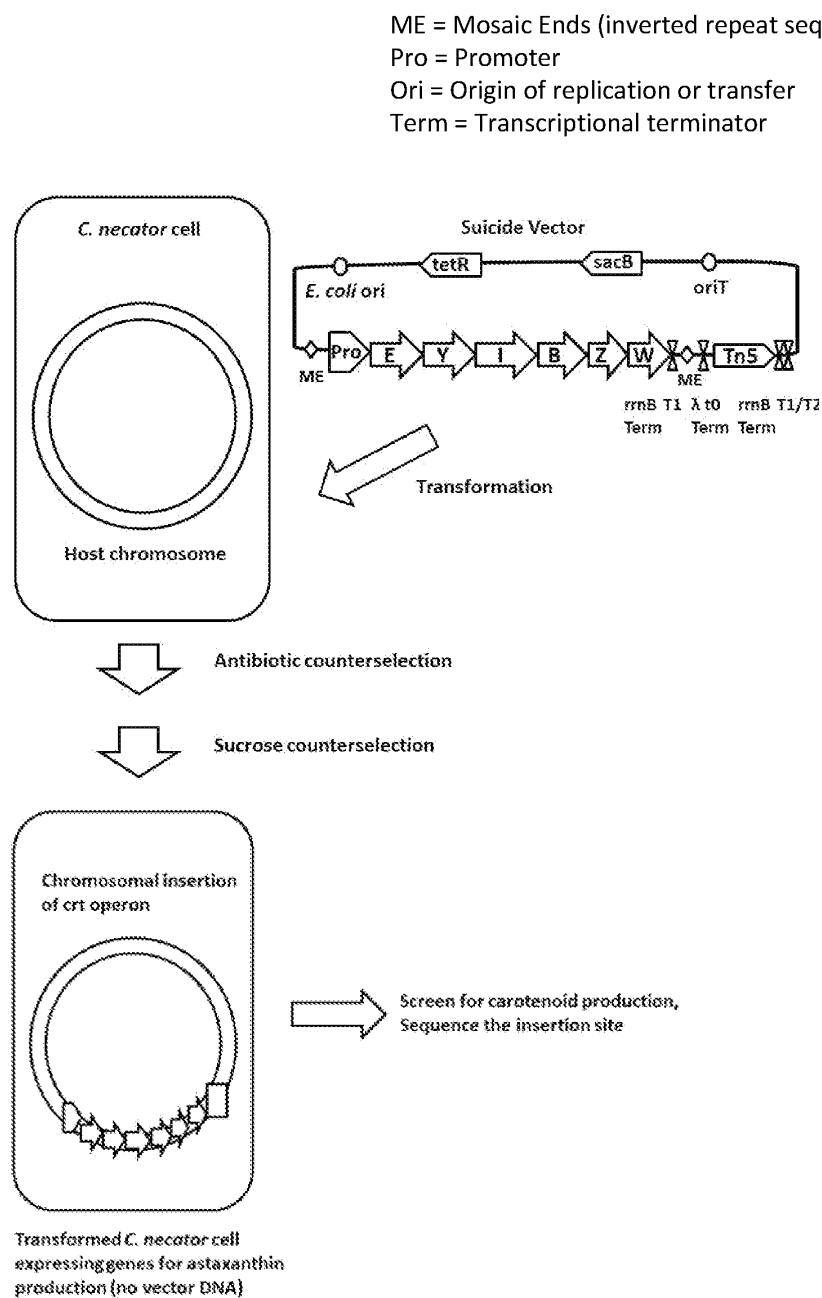


FIGURE 6. Transformation and chromosomal insertion of the operon into the host cell using transposon mutagenesis.

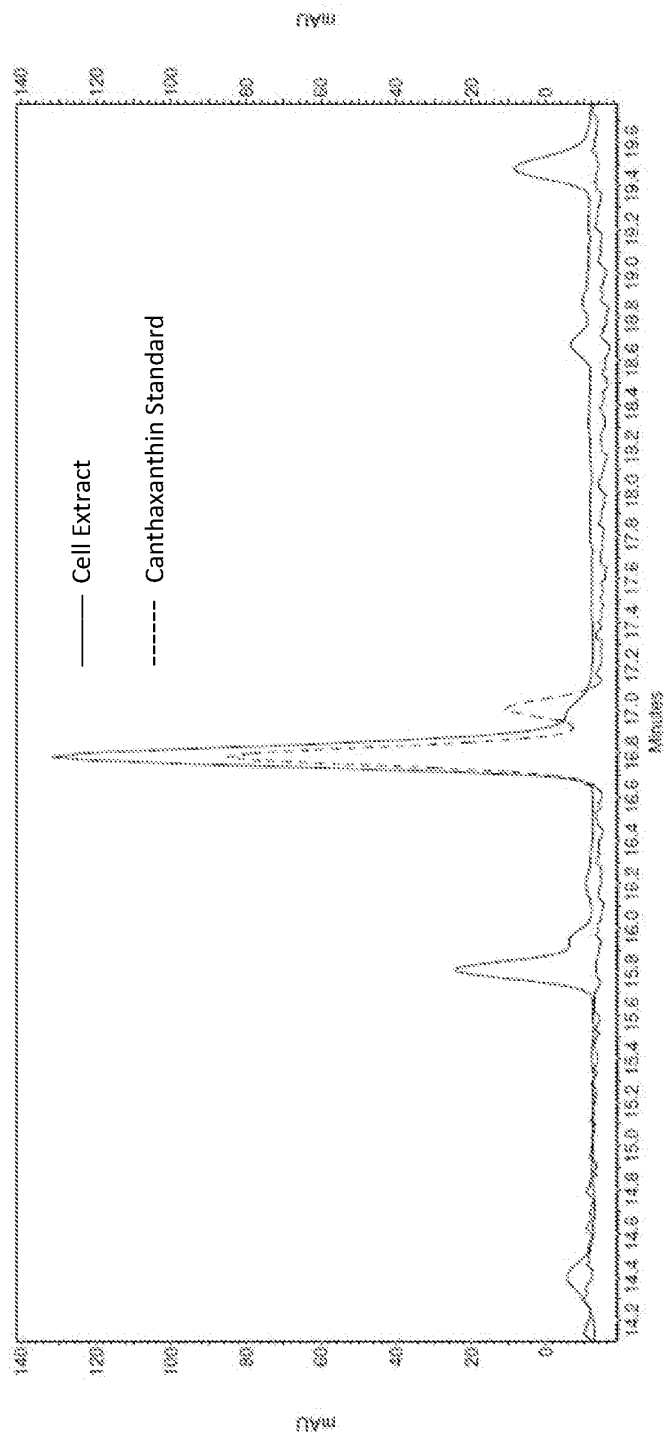


FIGURE 7. HPLC chromatogram for the products of the canthaxanthin-producing DNA insert.

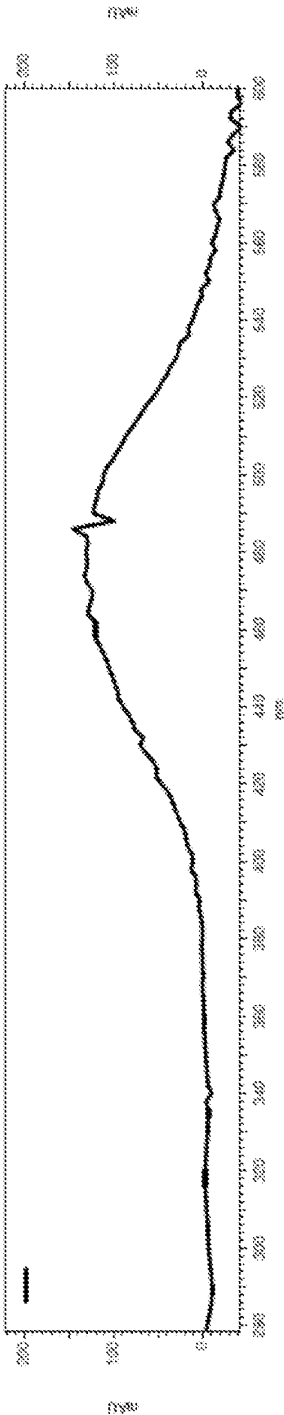


FIGURE 8. UV-Vis spectrum of the canthaxanthin product peak.

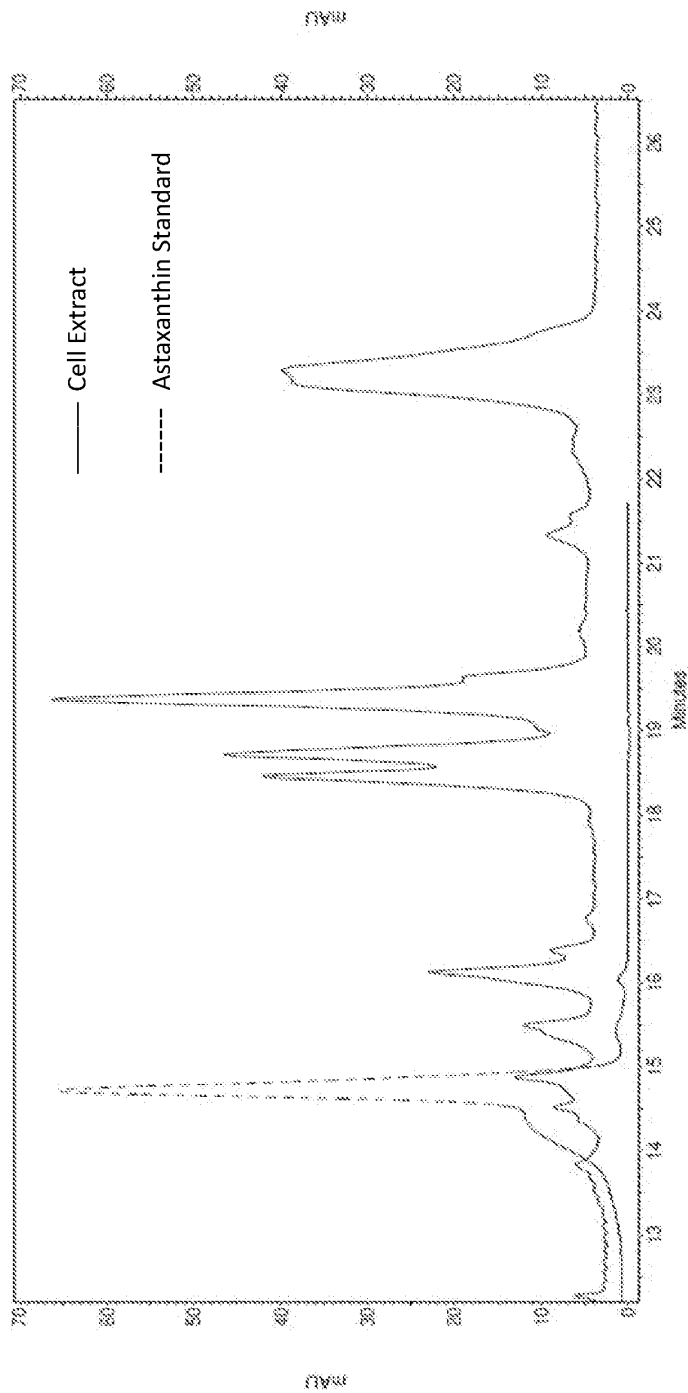


FIGURE 9. HPLC chromatogram for the products of the astaxanthin-producing DNA insert.

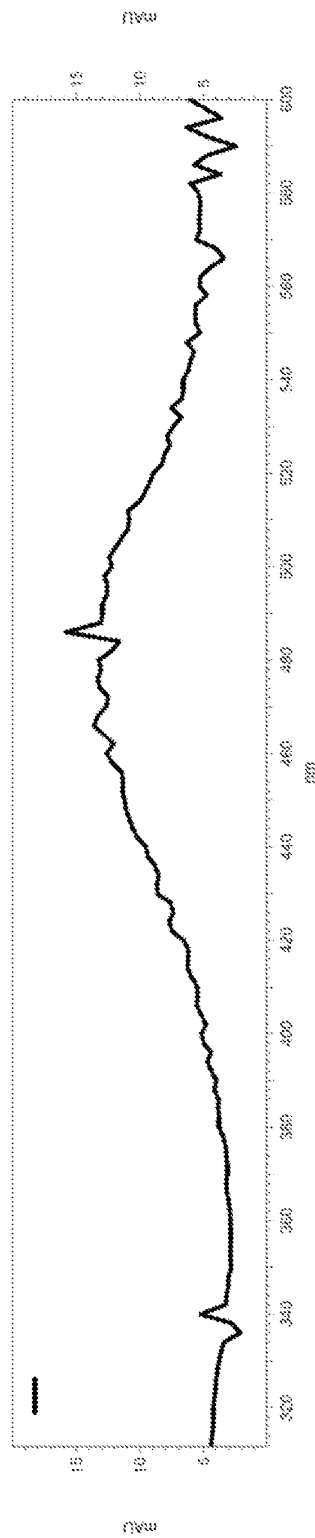


FIGURE 10. UV-Vis spectrum of the astaxanthin product peak.