Guajatacas water reservoir and Cabo Rojos Saltern microbial mats were cultivated on the appropriate M9NC, M-9G and M-9H, supplemented with Leucine and Thiamine for 48 hours at 37 Celsius. RESULTS/ANTICIPATED RESULTS: The culture-dependent approach showed a total of 6 potential bioprospsects capable of growing on hormones as a sole carbon source on M9H at 25 and 37 Celsius and no-growth on the M-9 media used. Currently, we are in the process of determining the identities of the cultivable isolates genetically, any preference on hormone metabolism, monitoring a larger number of metagenomic clones and optimizing the selection conditions. DISCUSSION/SIGNIFICANCE: The identification of bioprospsects capable of metabolizing hormones could potentially lead to the generation of new water treatments that could help remove unwanted chemicals, such as high concentrations of estrogens.

OBJECTIVES/GOALS: Adolescents with congenital heart defects (CHD) have an elevated risk for future cardiovascular events, but information about their risk for e-cigarette use ("vaping") is unknown. This study aims to present preliminary findings on gender differences in the association of impulsive behavior and vaping susceptibility from an ongoing investigation. METHODS/STUDY POPULATION: Adolescents with CHD (12-18 years; N=63) reported their vaping susceptibility and completed subjective (UPPS-P)/objective (Iowa Gambling Task; IGT) assessments of impulsive behavior previously associated with tobacco use. The UPPS-P includes 5 facets: 1) negative urgency (impulsivity under negative emotions), 2) positive urgency (impulsivity under positive emotions), 3) lack of premeditation (acting without thinking), 4) lack of perseverance (inability to focus), and 5) sensation seeking (seeking thrilling experiences). The IGT is a computerized task that creates conflict between immediate reward and delayed punishment via selections from advantageous/disadvantageous card decks. Linear regressions stratified by gender determined associations between vaping susceptibility and impulsivity. RESULTS/ANTICIPATED RESULTS: Nearly 30% (29.7%) of adolescents with CHD were susceptible to vaping. Negative urgency was associated with vaping susceptibility among females (β = 0.44, p = .035) but not males (β = 0.25, p = .128). Positive urgency was associated with vaping susceptibility among males (β = 0.37, p = .021) and trended toward significance among females (β = 0.40, p = .058). Lack of premeditation was associated with vaping susceptibility among males (β = 0.36, p = .025) but not females (β = 0.15, p = .490). The association between lack of perseverance and vaping susceptibility trended toward significance among males (β = 0.30, p = .064) but not females (β = -0.18, p = .413). IGT performance was not associated with susceptibility to vaping among either gender. UPPS-P facets and IGT performance were not significantly correlated. DISCUSSION/SIGNIFICANCE: The association of impulsivity and vaping susceptibility appears to be characterized by emotion-based rash action (positive/negative urgency) for females and by decreased conscientiousness (lack of premeditation/perseverance) for males. If replicated, the findings have implications for assessment of vaping risk and tailored intervention.