

CHEM 314 Projects

Spring 2015

| Project 1: Citrus and Savory Seasoning Rub | |
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| Metals | Identify and quantify major element in container by two methods Quantify trace elements in the container |
| FT-IR | Identify plastic in the cap |
| Calories | Determine the number of calories per gram seasoning |
| HPLC | Quantify the maltodextrin |
| GC-MS | Confirm the presence of paprika, chili pepper, lemon and orange peel |
| Electron microscopy | Identify individual grains in the spice mixture Determine the thickness of the metal used in the container |
| CYOA | Pose and answer your own question |

| Project 2: Altoids Liquorice | |
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| Metals | Identify and quantify major element in metal tin by two methods Quantify trace elements in metal cap Quantify major and trace metals in the candies |
| FT-IR | Identify plastic used in the wrapping |
| Colors OR Calories | Identify a colorant in the candies OR Determine the number of calories per candy |
| HPLC | Identify the sweeteners in the candies |
| GC-MS | Identify and quantify two "natural flavors" in the product |
| Electron microscopy | Examine metals in paint on cap OR pose your own question Determine the thickness of the metal in the tin |
| CYOA | Pose and answer your own question |

| Project 3: Yosemite Air Wick | |
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| Metals | Identify and quantify major element in metal container by two methods Quantify trace elements in metal container |
| FT-IR | Identify plastic used in the lid |
| Colors | Examine colorants in the packaging OR pose your own question |
| HPLC | Identify a component of the product |
| GC-MS | Identify two components in aerosol Determine the carrier gas |
| Electron microscopy | Determine the thickness of the metal in the container |
| CYOA | Pose and answer your own question |

| Project 4: Off Clip on Mosquito repellent | |
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| Metals | Identify and quantify major element in any metal components Quantify trace elements |
| FT-IR | Identify plastic used in the packaging and each piece of the product |
| Colors | |
| HPLC | Identify a component of the product |
| GC-MS | Identify at least two components in the repellent |
| Electron microscopy | Examine the filter material AND Pose your own question |
| CYOA | Pose and answer your own question |