**Determination of Seven Problematic Pesticides in Olive Oil**

**Results**

**Chemical Structures:**

![Chemical Structures](image)

- Recoveries of seven problematic pesticides in olive oil, including six base sensitive compounds (chlorothalonil, dichlofluanid, tolylfluanid, folpet and captan), and one acid sensitive compound, were determined by optimized QuEChERS procedure using UCT's QuEChERS product (ECMSSA50CT) and PSA/C18 dual layer SPE cartridges.

**Materials:**

- 50 mL QuEChERS extraction tube with 6000 mg anhydrous magnesium sulfate and 1500 mg anhydrous sodium acetate (UCT: ECMSSA50CT)
- 15 mL dSPE tube with 1200 mg anhydrous magnesium sulfate, 400 mg PSA and 400 mg endcapped C18.

**Procedure:**

1. **Extraction:**
   - 1 g of olive oil into the 50 mL QuEChERS tube, spike, wait 15 min for the solvent to evaporate.
2. **Clean-up (dSPE, endcapped C18 SPE cartridges):**
   - Add 10 mL MeCN with 0.5 % acetic acid, 9 mL DI H2O and shake vigorously for 1 min or vortex for 20 sec. Centrifuge at 4000 rpm for 10 min.
3. **GC/MS:**
   - GC/MS: Agilent 6890N GC coupled with 5975C MSD, equipped with 7683 auto sampler software for data acquisition and analysis.

**Instrumental:**

- GC/MS: Agilent 6890N GC, coupled with MS/MS MSD, equipped with 7683 auto sampler. Creation® software for data acquisition and analysis.
- GC: 1 µL splitless injection at 250 ºC, with a split delay of 1 minute.
- Helium at a constant pressure of 17 psi.
- Aux temperature: 280 ºC, MS Source: 230 ºC, MS Quad: 150 ºC
- Scan range: 50-550
- Tune file: tune.u
- Simultaneous Scan/SIM

**Method Performance Data**

**Conclusions:**

An optimized QuEChERS procedure was successfully developed, using UCT's QuEChERS product (ECMSSA50CT) and PSA/C18 dual layer SPE cartridges. This procedure can be also used for the determination of problematic pesticides in other fatty matrices.