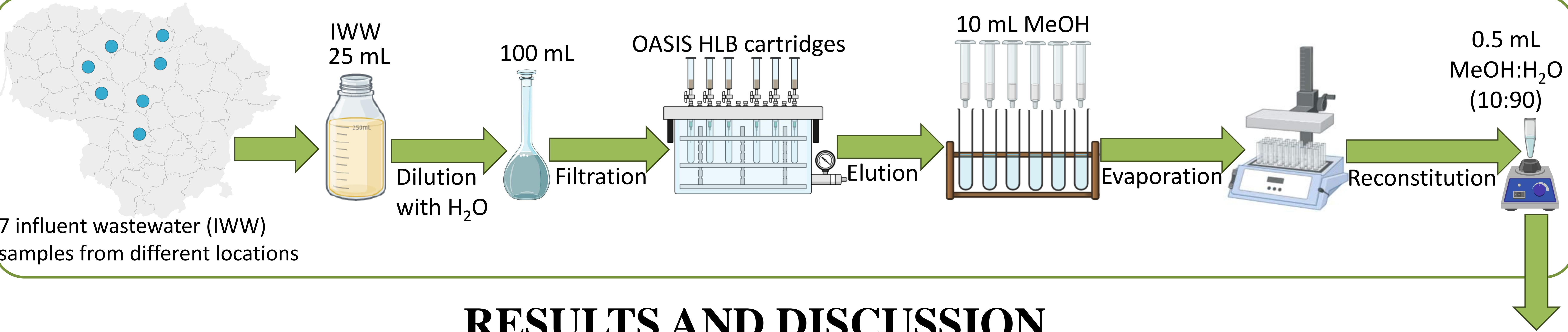


INTRODUCTION

Freshwater resources around the world are becoming increasingly scarce, and demand for freshwater continues to grow as the human population grows in increasing quantities [1]. Water and wastewater pollution with major pollutants such as personal care products and pharmaceuticals can put human health and the ecosystem to the risk, especially in the developing countries. These substances are harmful not only for humans but also have negative effects to plants and aquatic ecosystems. Considering that daily use of them is unavoidable and the quantities of them consumed daily is increasing and not fully controlled, these organic compounds are considered as highly alarming pollutants [2]. Also considering that these pollutants have complex structures and the constant presence of their residues in everyday life, raises the problem of their incomplete removal from water systems [3].

The aim of this study was to identify the residues of pharmaceuticals, personal care products and pesticides in influent wastewater from 7 wastewater treatment plants in Lithuania.

MATERIALS AND METHODS



RESULTS AND DISCUSSION

Table 1. PAPS and PESTS identified in influent wastewater

IWW sample	Naproxen	Ketoprofen	Diclofenac	Acetaminophen	Thiabendazole	Propamocarb	Sulfapyridine	Valsartan	Caffeine	Carbamazepine
IWW1	+	+	+	+		+		+		+
IWW2	+	+	+	+		+	+	+	+	
IWW3	+	+	+	+						+
IWW4	+	+	+		+					+
IWW5	+	+	+	+			+			+
IWW6	+	+	+	+						
IWW7	+	+	+						+	

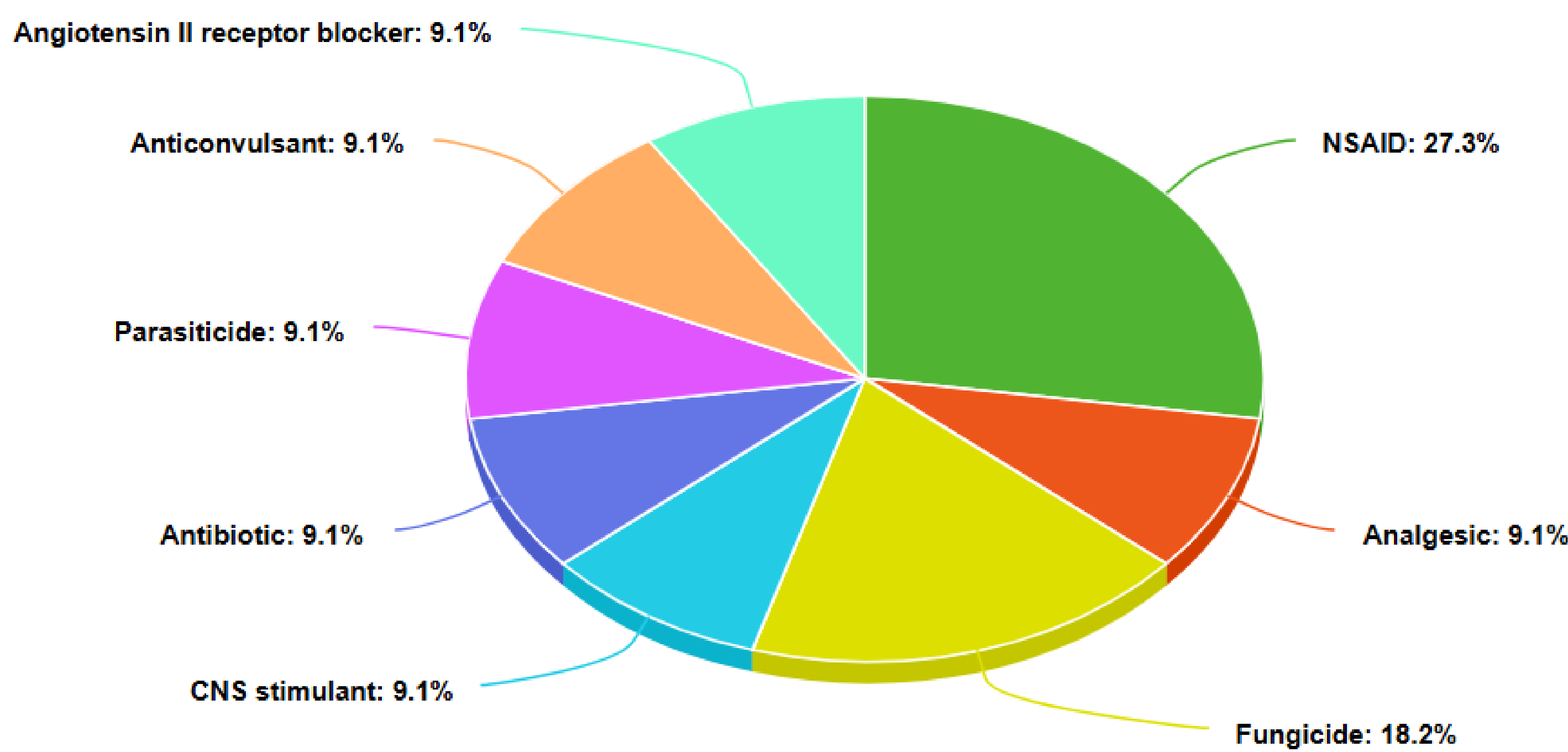
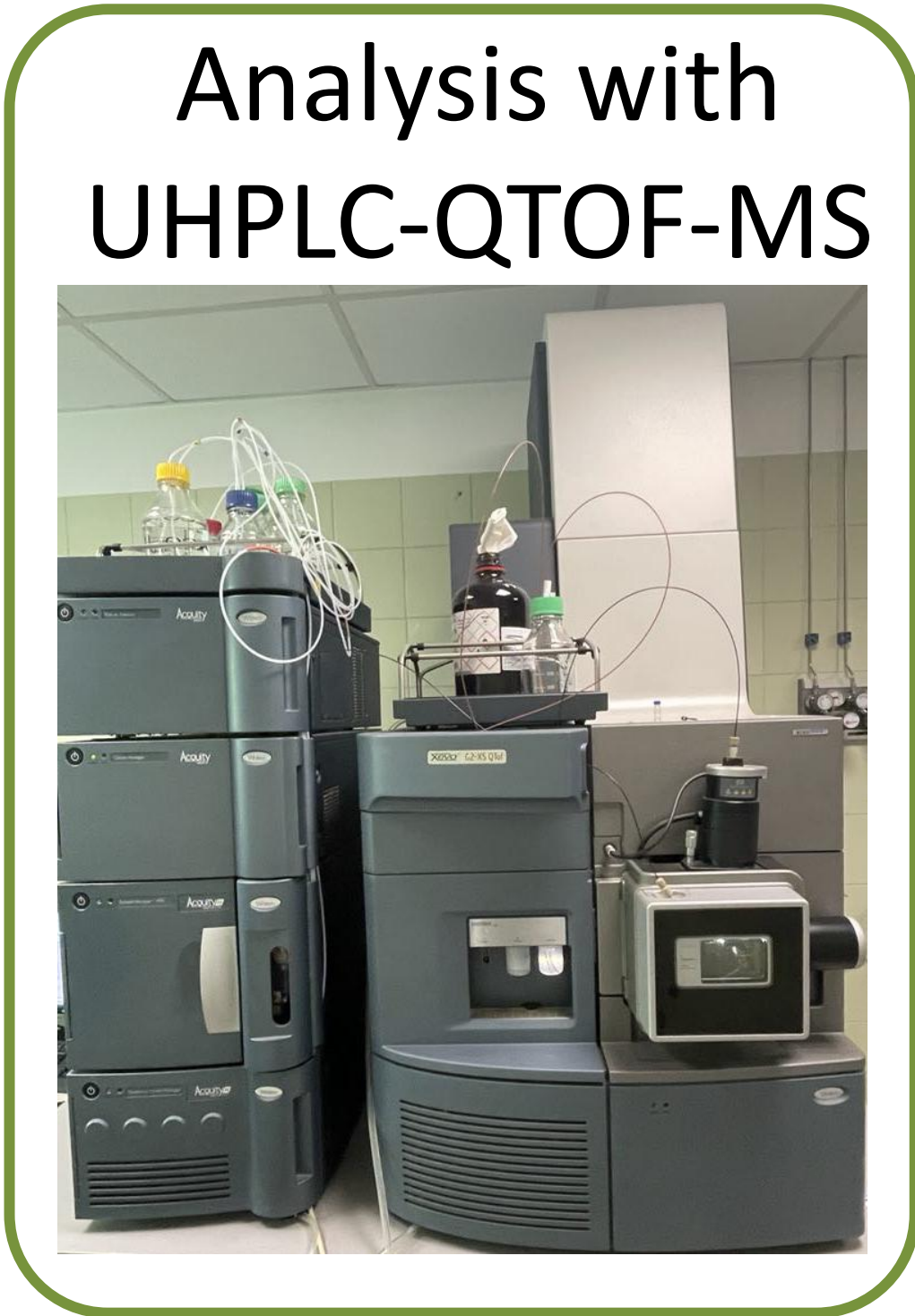


Figure 1. Distribution of identified PAPS and PESTS according class.

The results showed that in all influent wastewater samples the residues of pharmaceuticals such as: Naproxen, Ketoprofen and Diclofenac were found. In higher population cities (IWW1, IWW2, IWW5) more different types of pharmaceutical and personal care product residues were found. Just several pesticide residues such as: Thiabendazole and Propamocarb were detected and not in all samples.

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