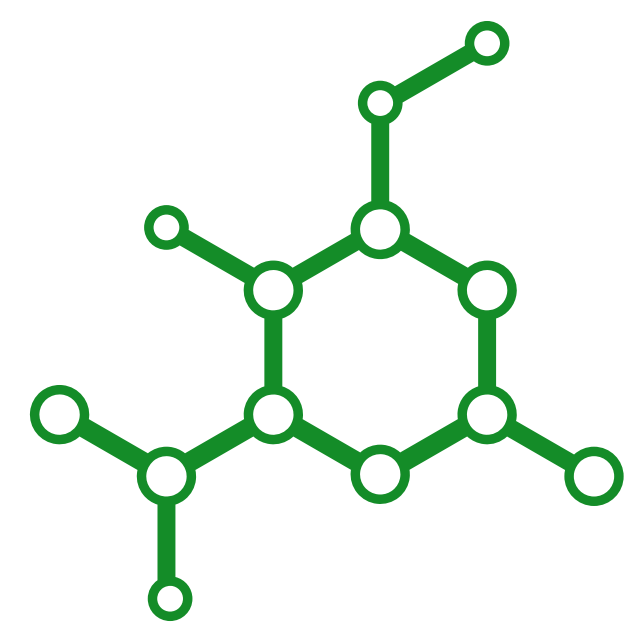
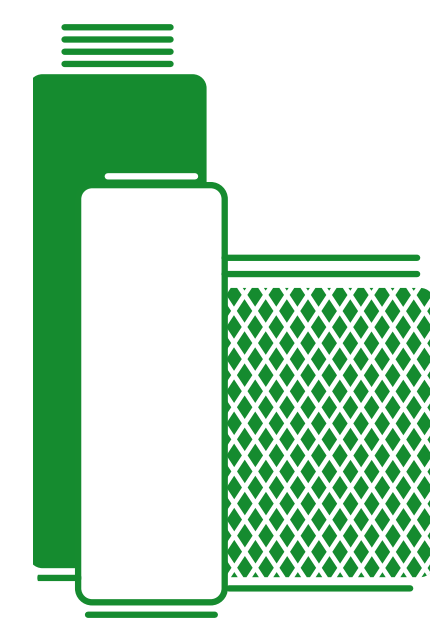


ARAGON

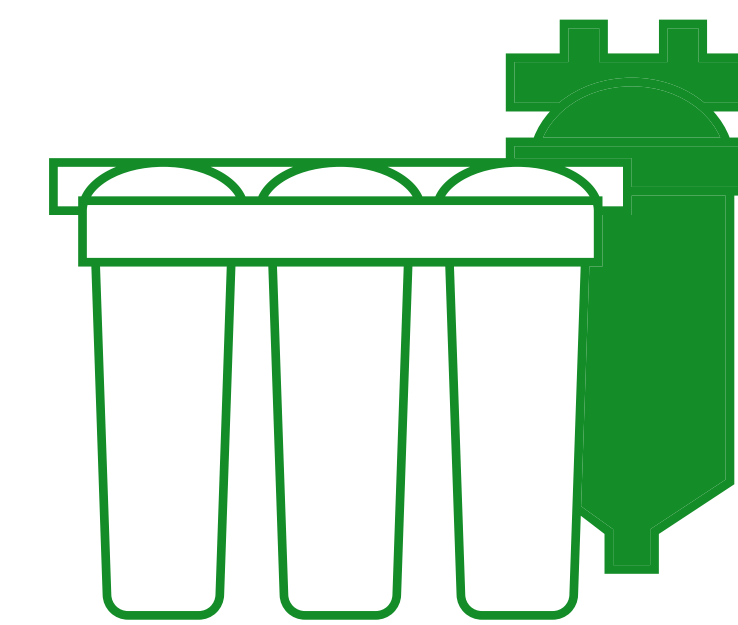
TECHNOLOGIES



MODIFICATIONS



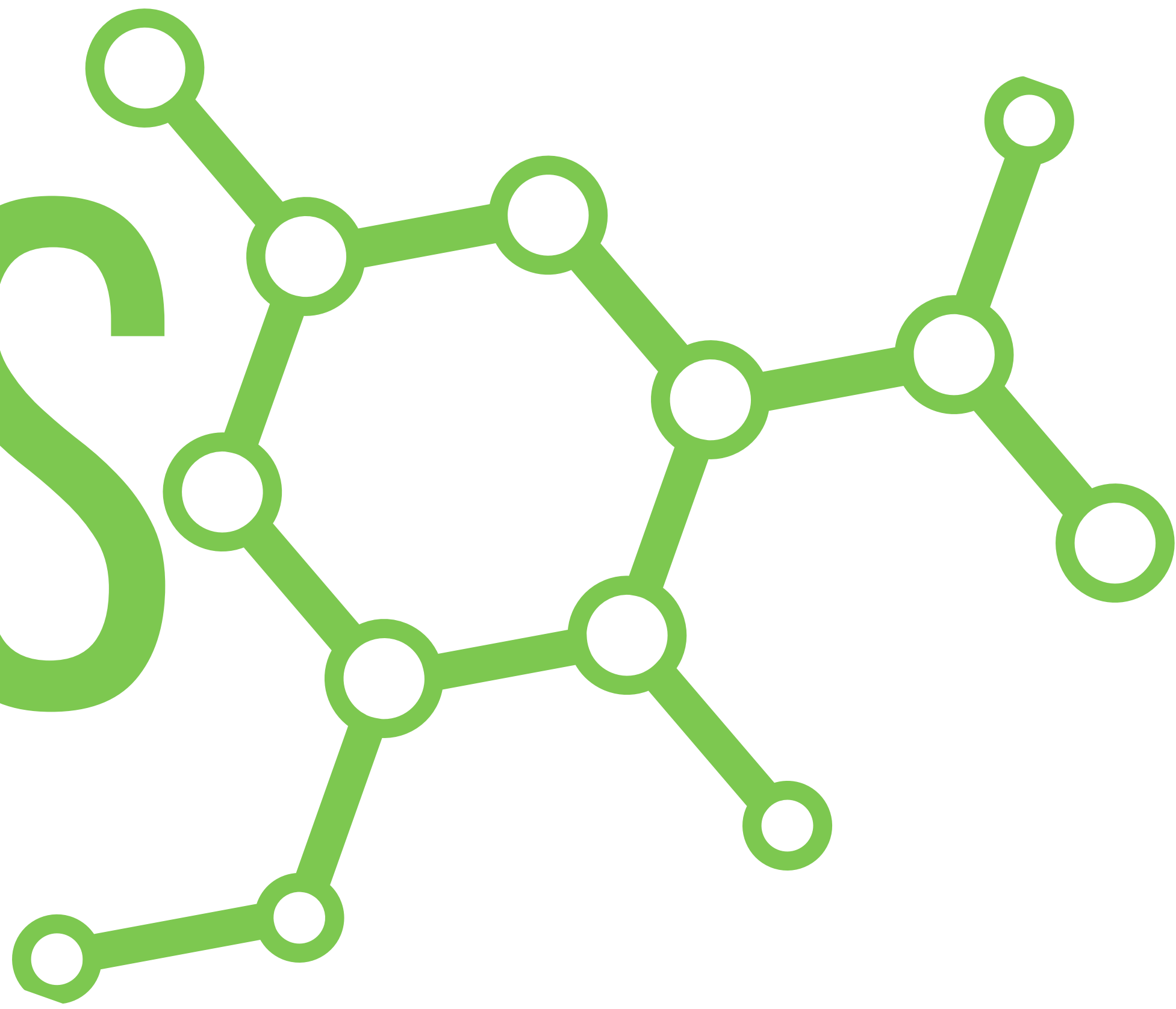
APPLICATION



ADVANTAGES



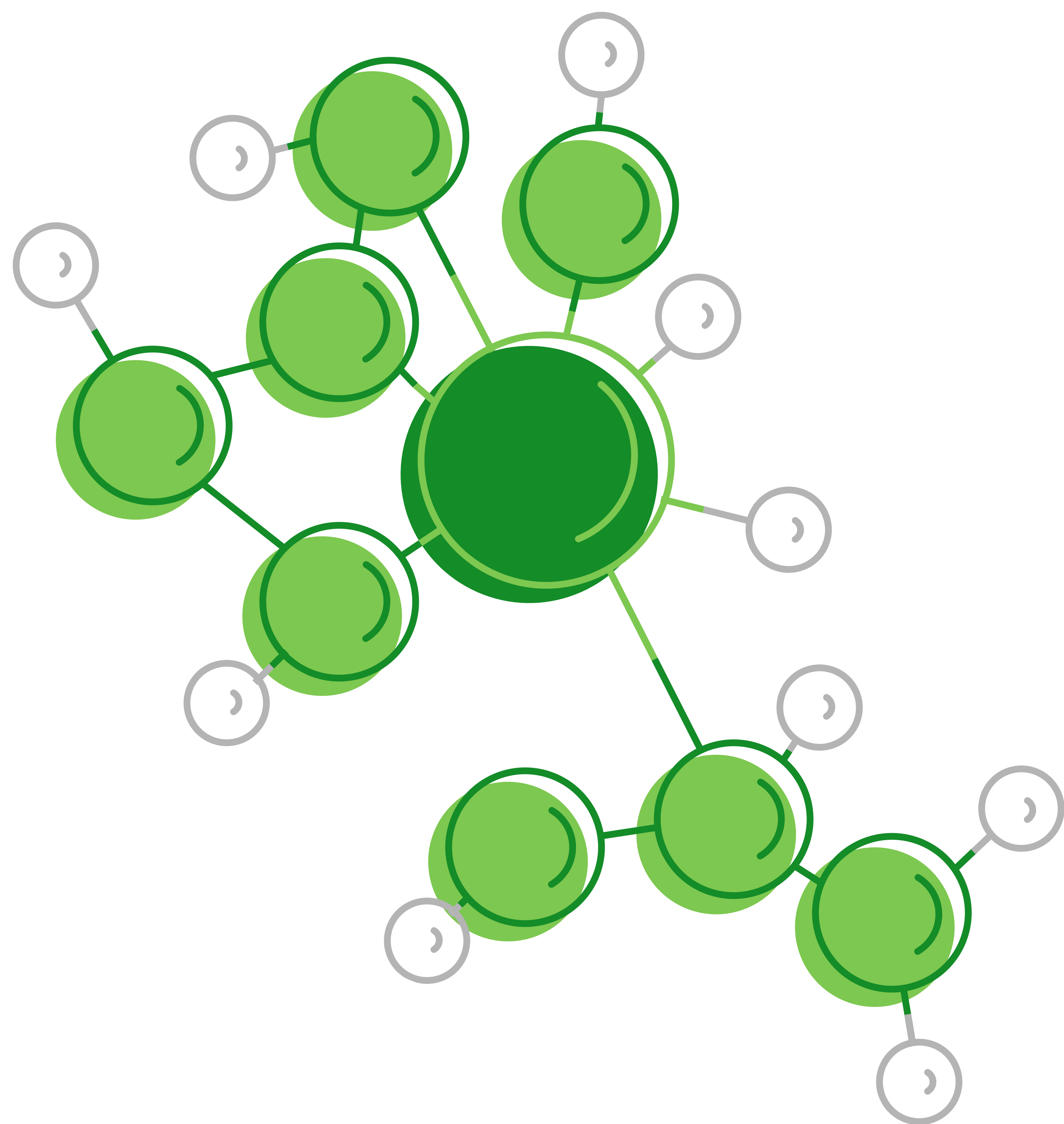
TECHNOLOGIES





FILTRATION

MATERIAL

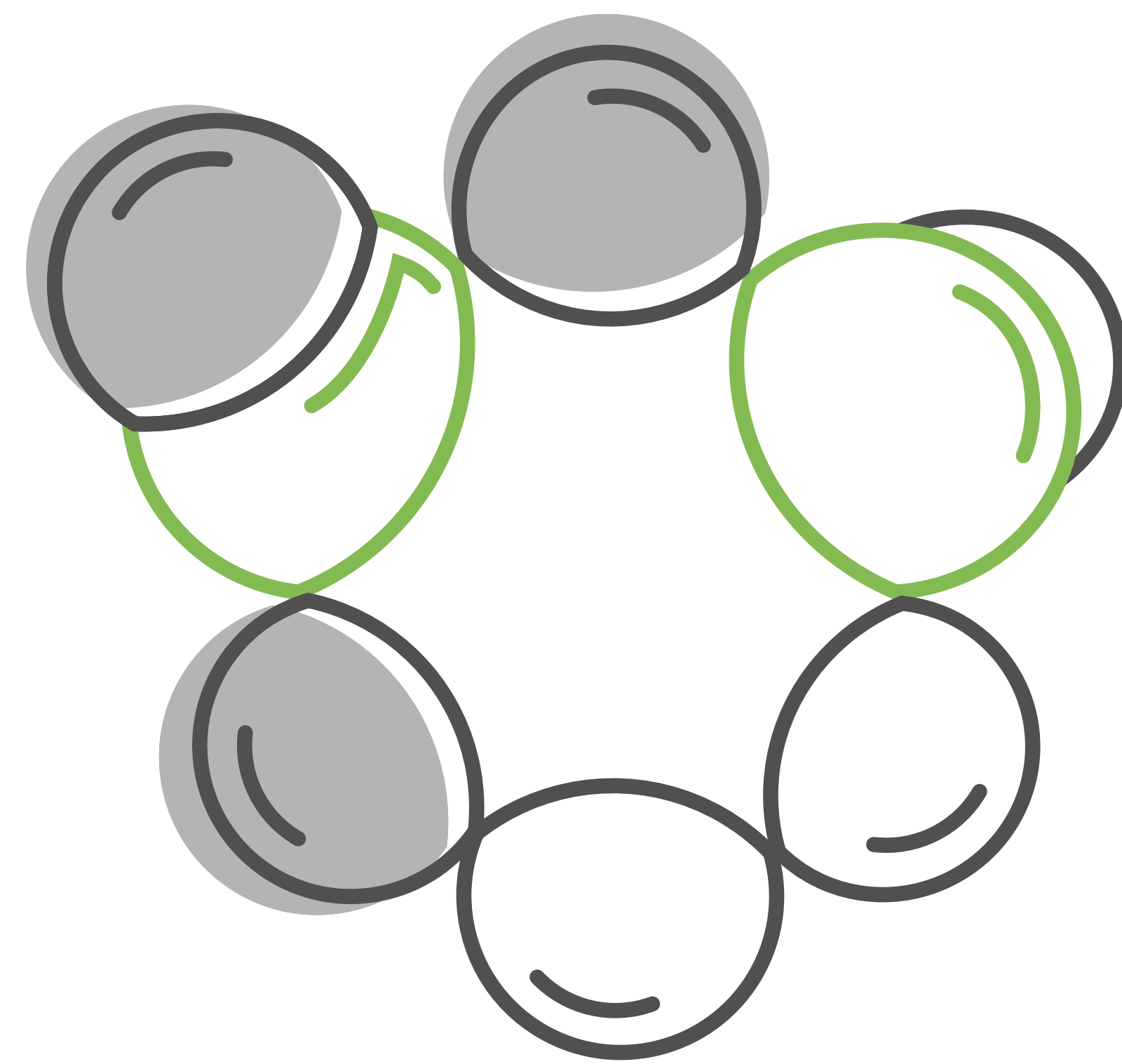


SGS

SGS – POLYMERS

(SPACE-GLOBULAR-STRUCTURE)

High molecular compounds with cation –
and anion-exchange properties.



ARAGON

The composite polymeric material structured as a single block combined with silver as a bacteriostatic agent.

Invention Patent:

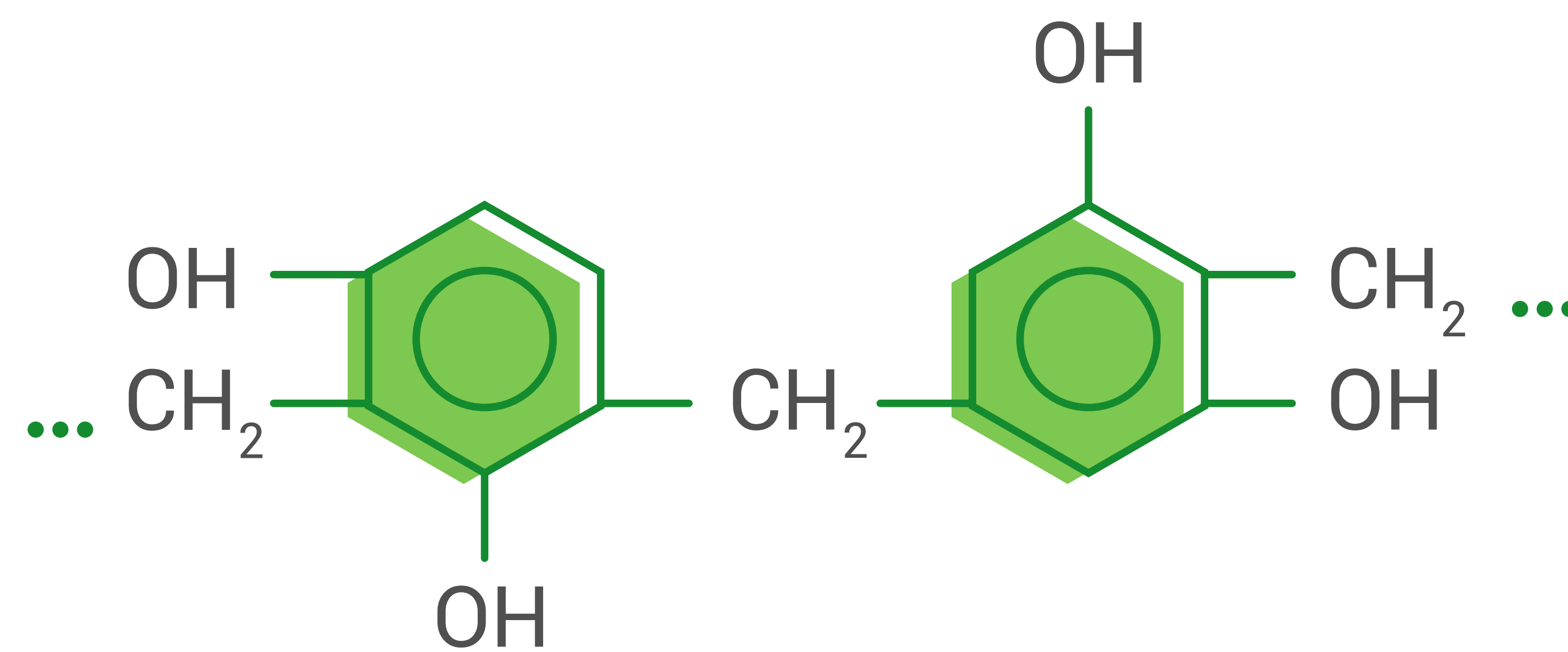
Nº 2286354

Nº 2287356

Nº 2297270

Nº 2299087

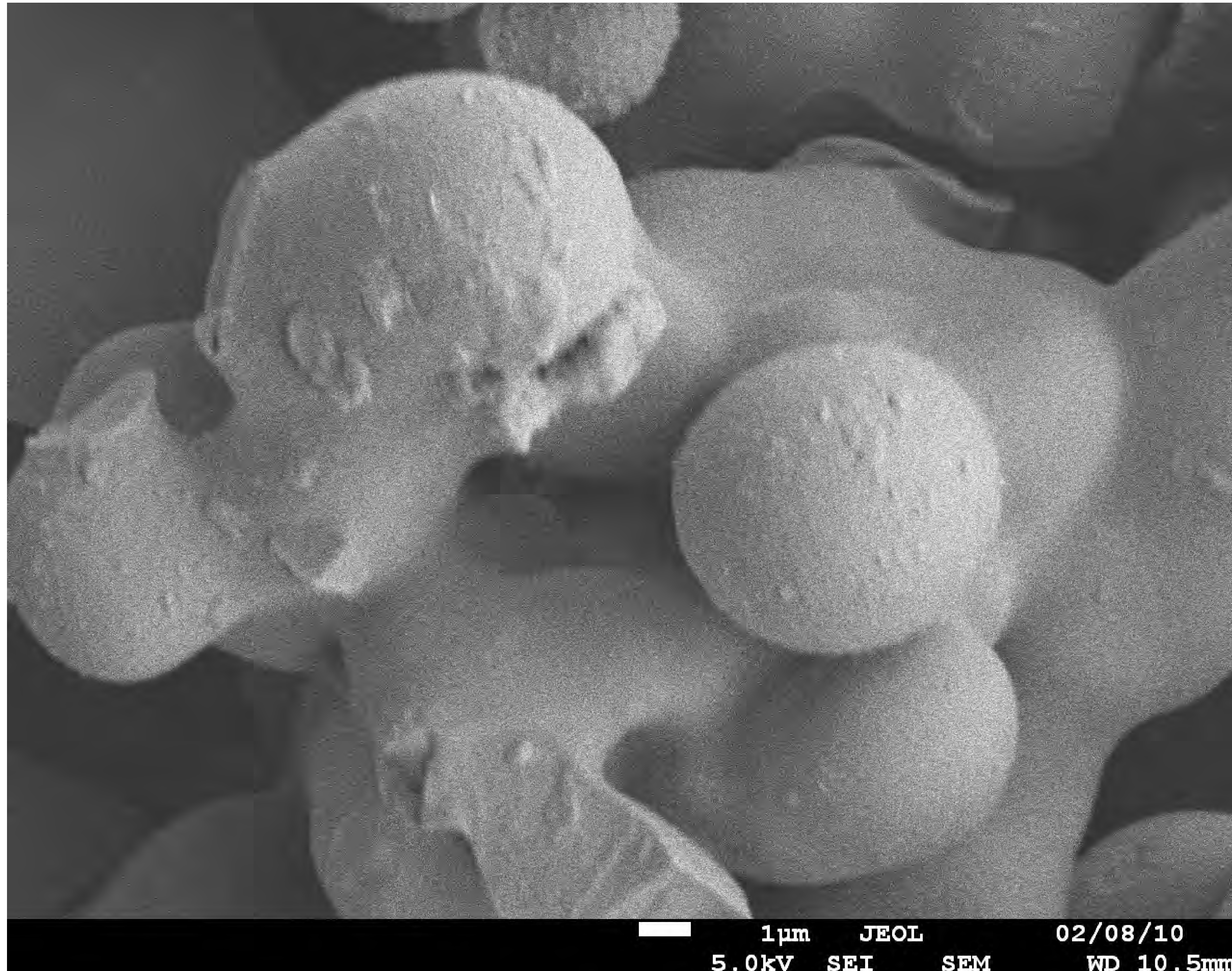
Resorcin— m-Dihydroxybenzene



The resorcin-based polymer shows the best results in removing contaminants from water.



1 μm

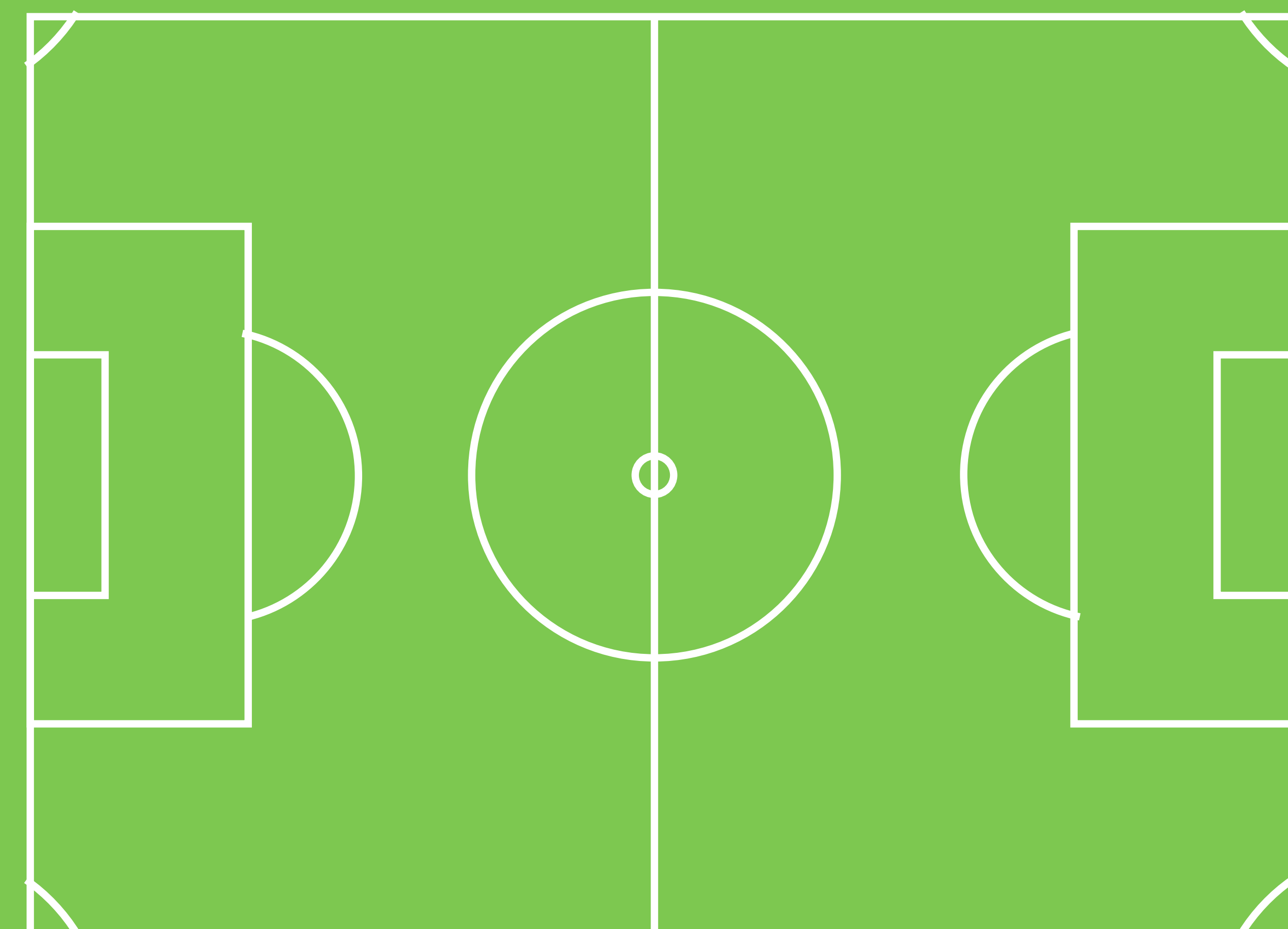


There are active ion-exchange groups on the globules' surface.

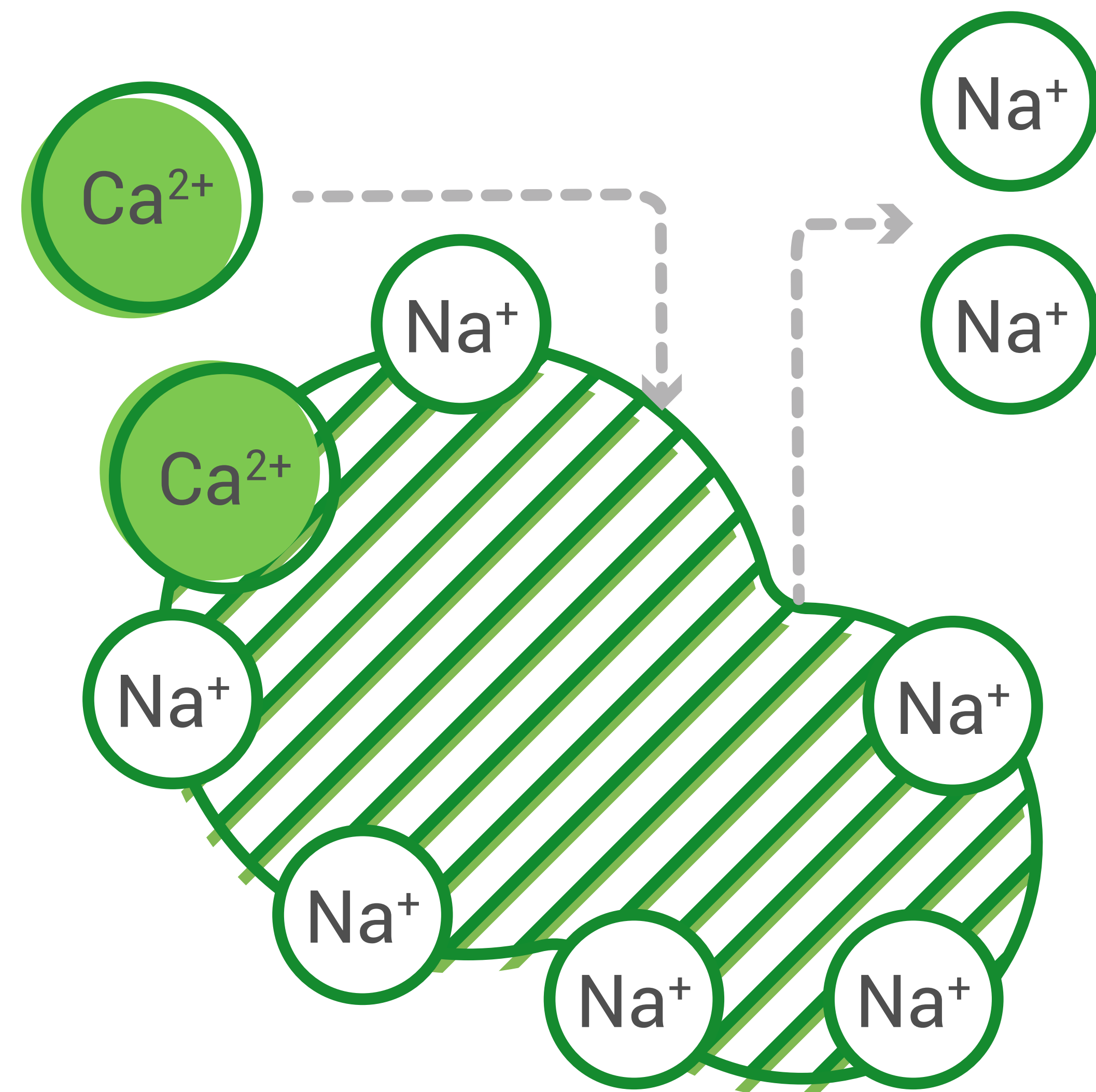
MICROGLOBULES

long polymer chains, when connected together, form a mechanically strong structure with a large internal surface area

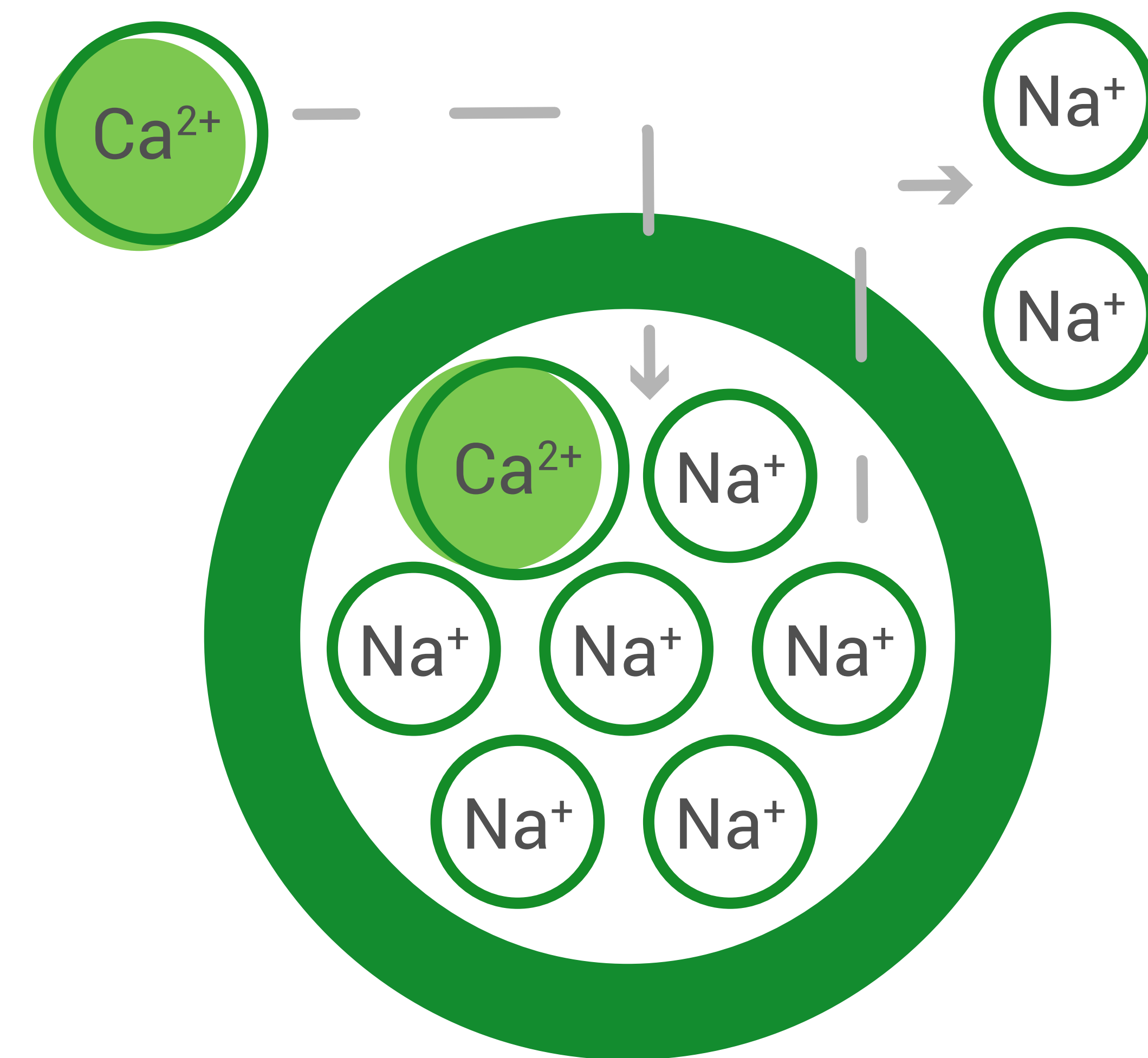
up to **= 20** m^2 sorption surface



ARAGON



ION-EXCHANGE RESIN



ION EXCHANGE IN ARAGON

occurs on the globules' surface, which is much faster than in regular ion-exchange materials, because there is no diffusion through the grains' protective cover.

SPEED OF ION EXCHANGE IN ARAGON

grows with the speed of the source water flow, because due to the fast replenishment of solution in micropores the ion exchange process becomes more efficient.

ARAGON 2

Invention Patent:
№ 57142

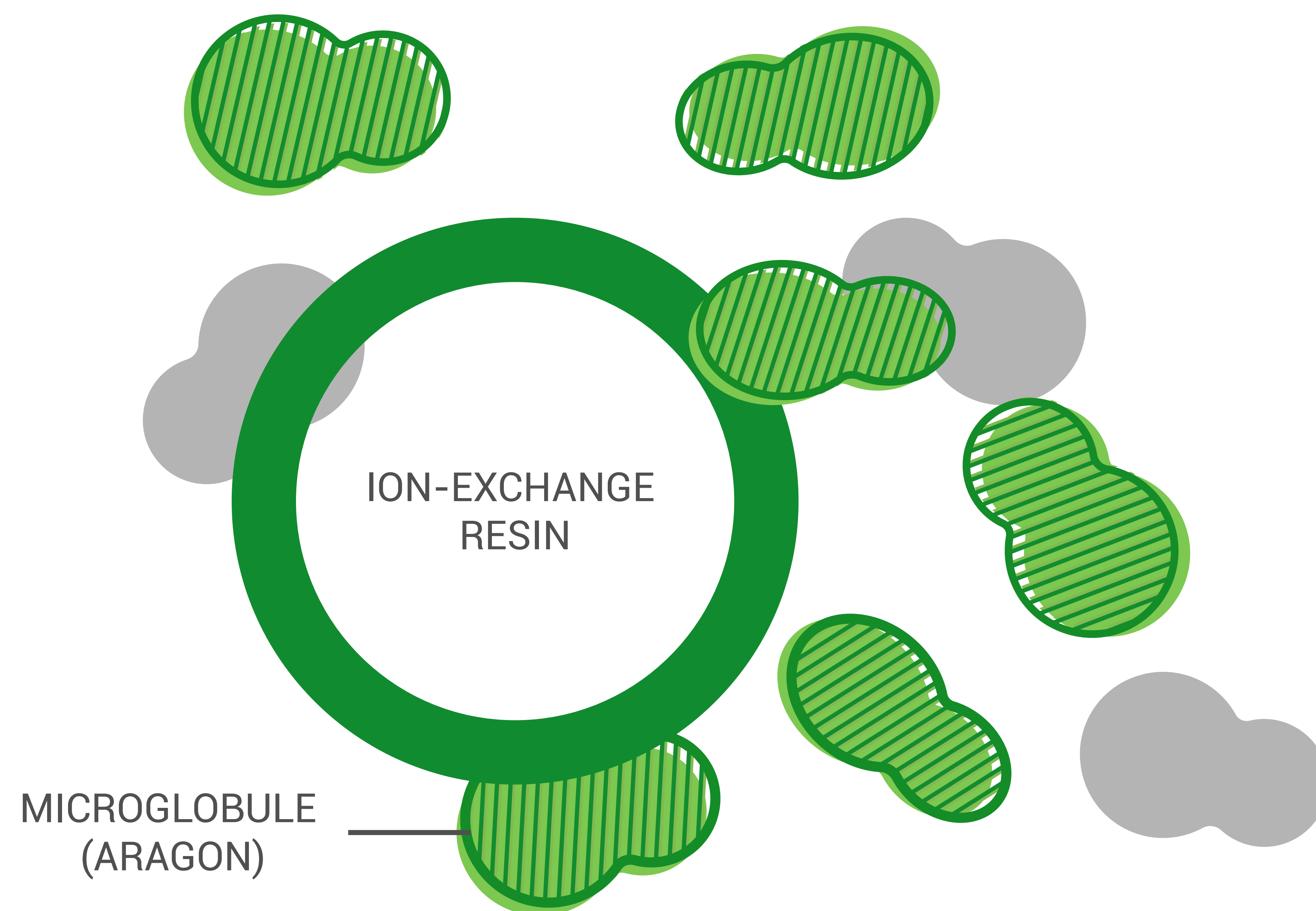
Aragon with the increased

by **12-15** times

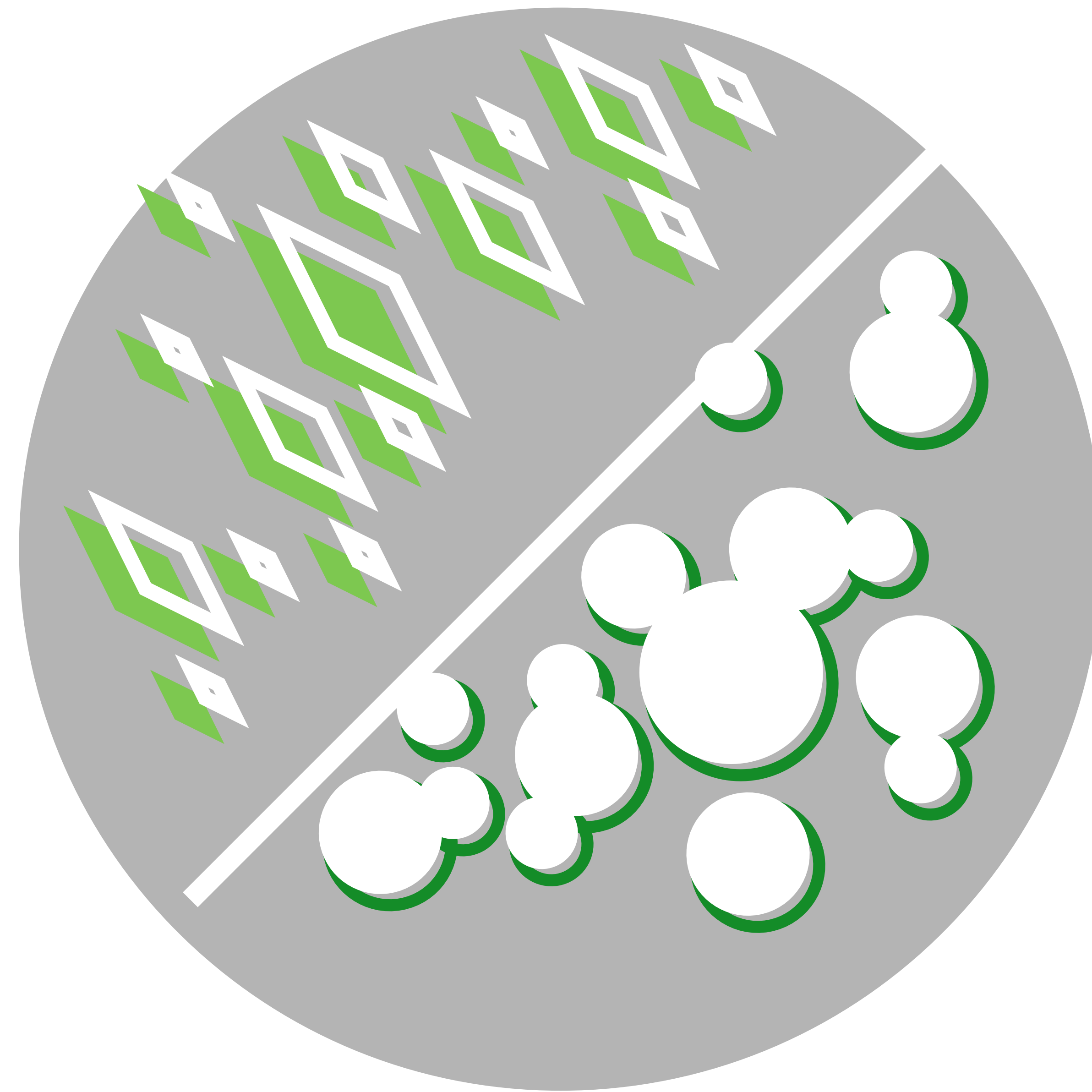
ion-exchange capacity.

In the process of synthesis the granules of ion-exchange resin are embedded in the polymer.

The resin's particles are held by mechanical and electrokinetic bonds.

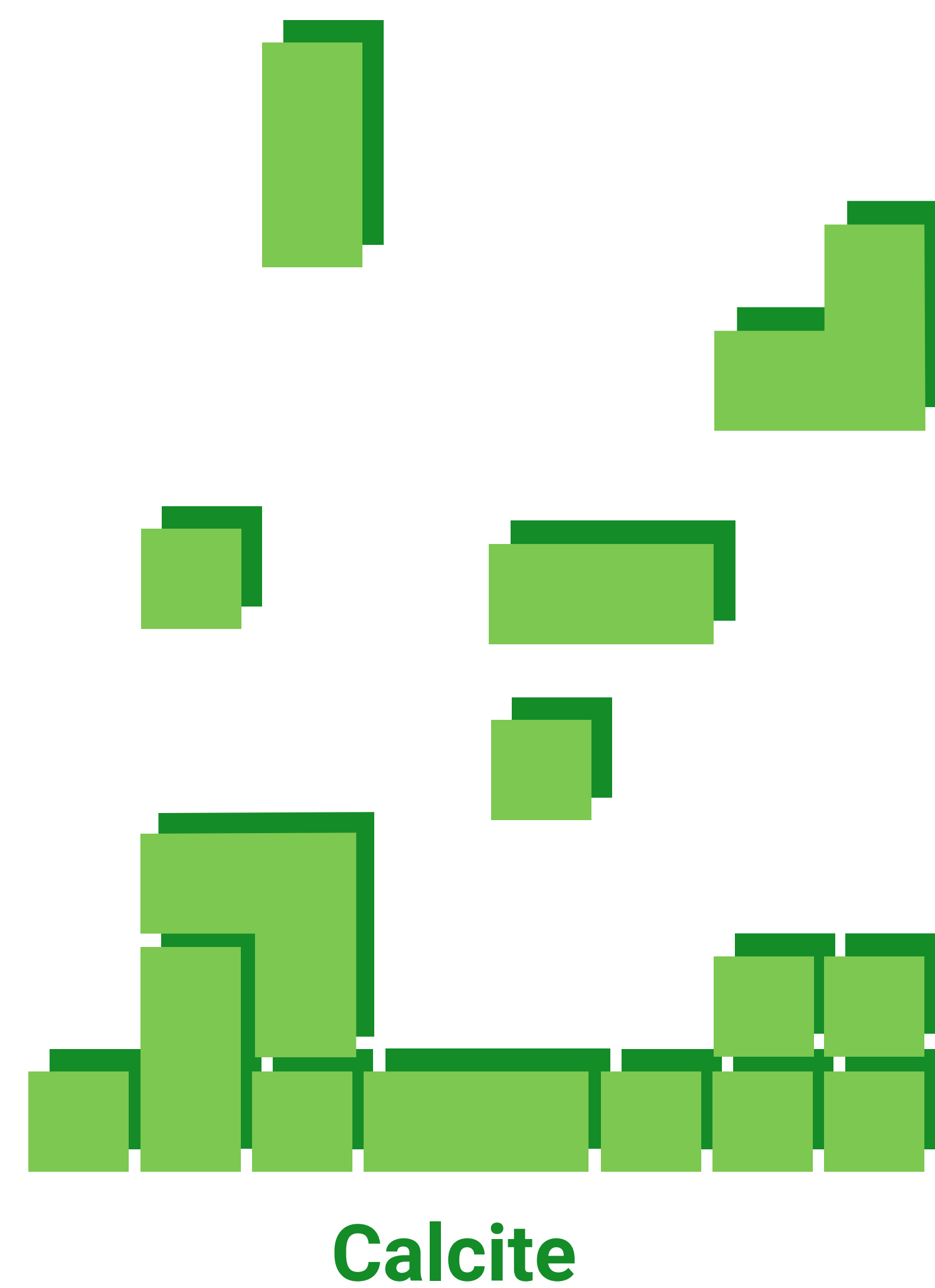


QUASI-SOFTENING



QUASI-SOFTENING

Invention Patent:
№ 2261843
№ 2286953



As clusters move in channels between microglobules, the pressure increases and causes a shift of chemical balance resulting in dissolution of carbon dioxide contained in water. This is how conditions for clusters recrystallization from **CALCITE to ARAGONITE are created.**

ARAGON FOR PREVENTION OF KIDNEY STONE DISEASE

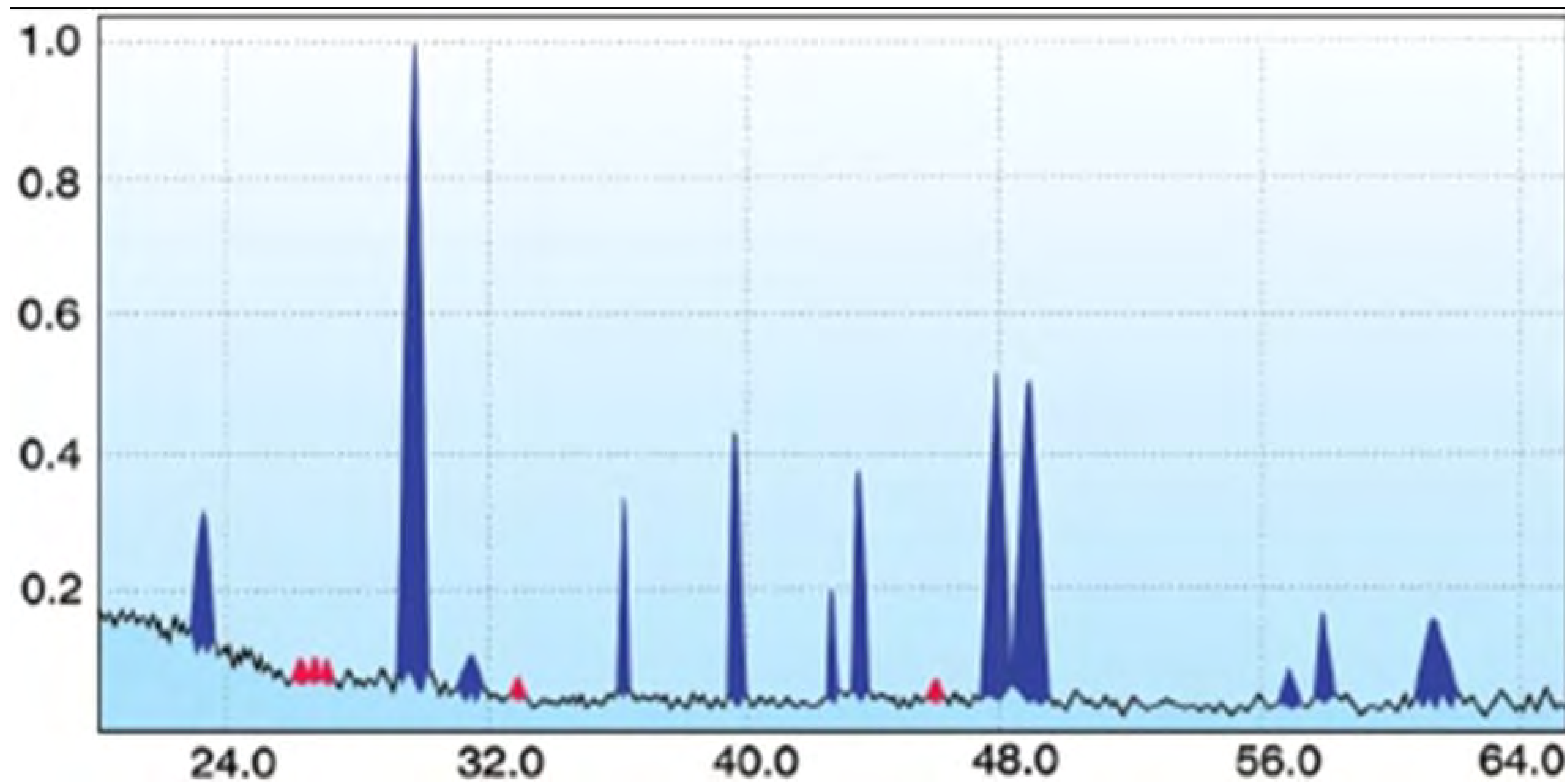
According to the results of the researches conducted at the Saint Petersburg Military Medical Academy, drinking of hard water filtered with ARAGON leads to reduction of crystals causing stone formation in size and quantity (2). Moreover, the aragonite form of hardness salts contributes to the better calcium absorption, thus facilitating kidneys' works



Kirov Military Medical Academy

CHANGE OF COMPOSITION OF CARBONATES DISSOLVED IN WATER

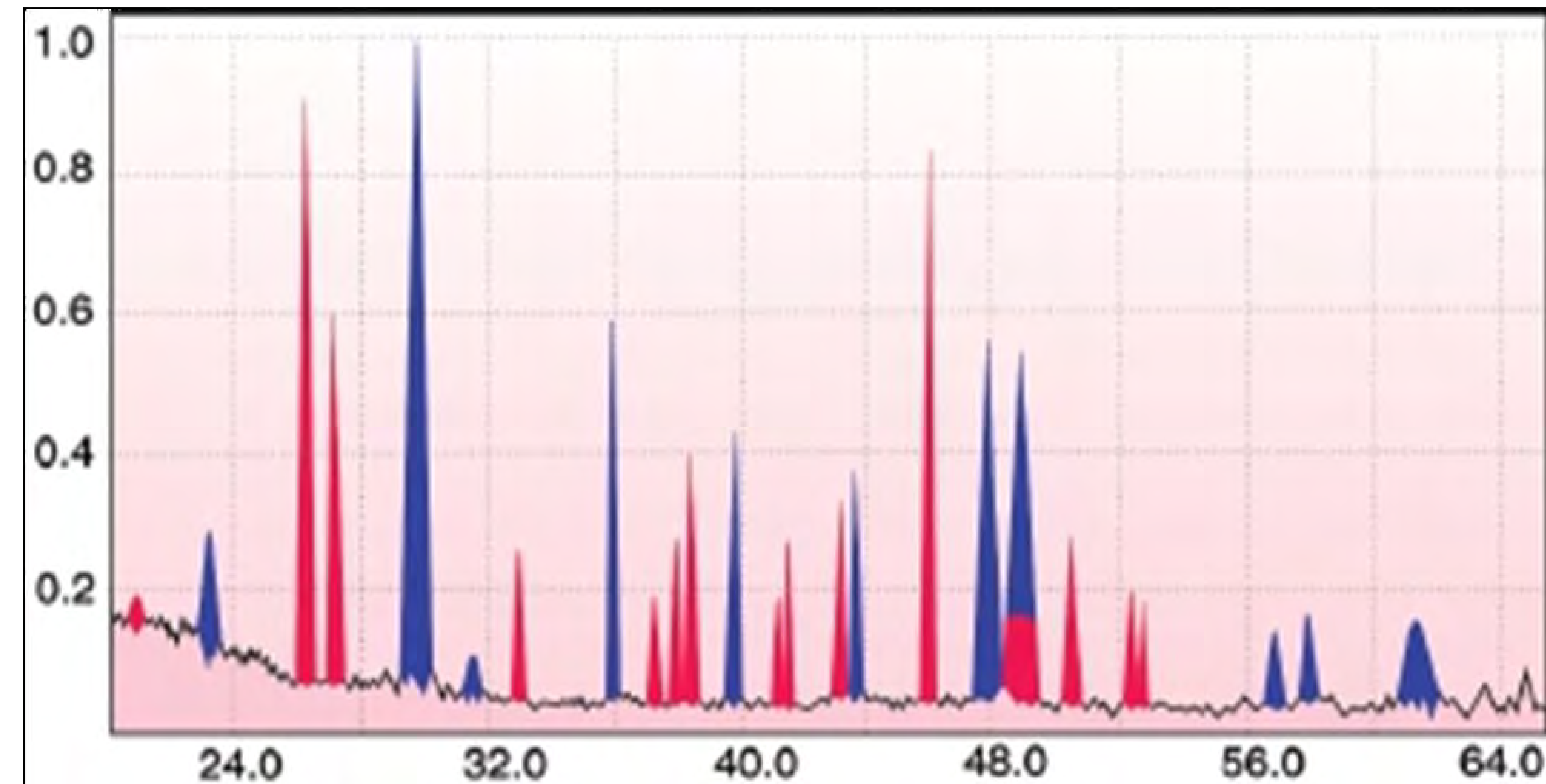
(X-RAY SPECTRAL
ANALYSIS RESULTS)



Ordinary hard water:

5% ARAGONITE

95% CALCITE

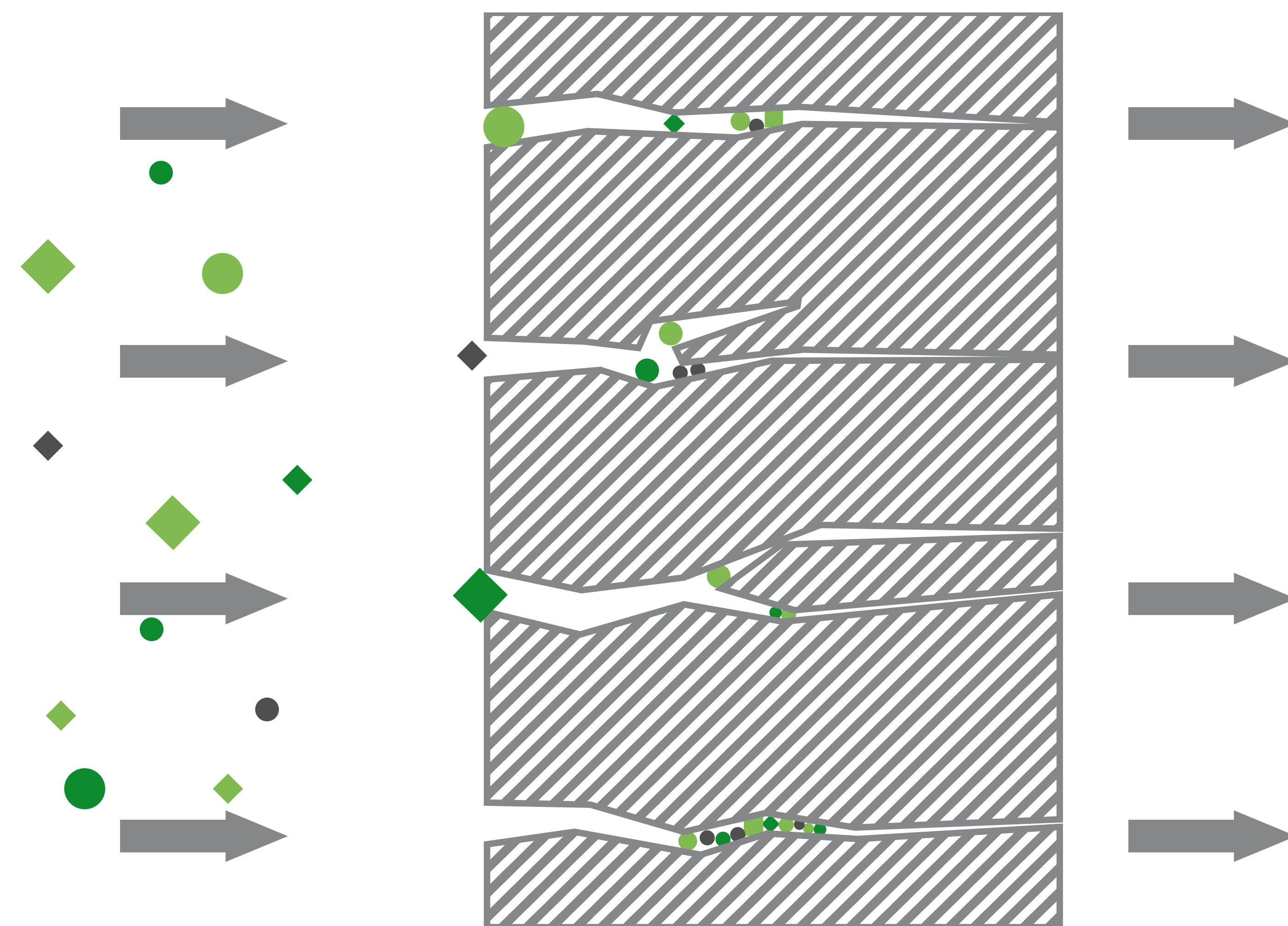


Filtered water:

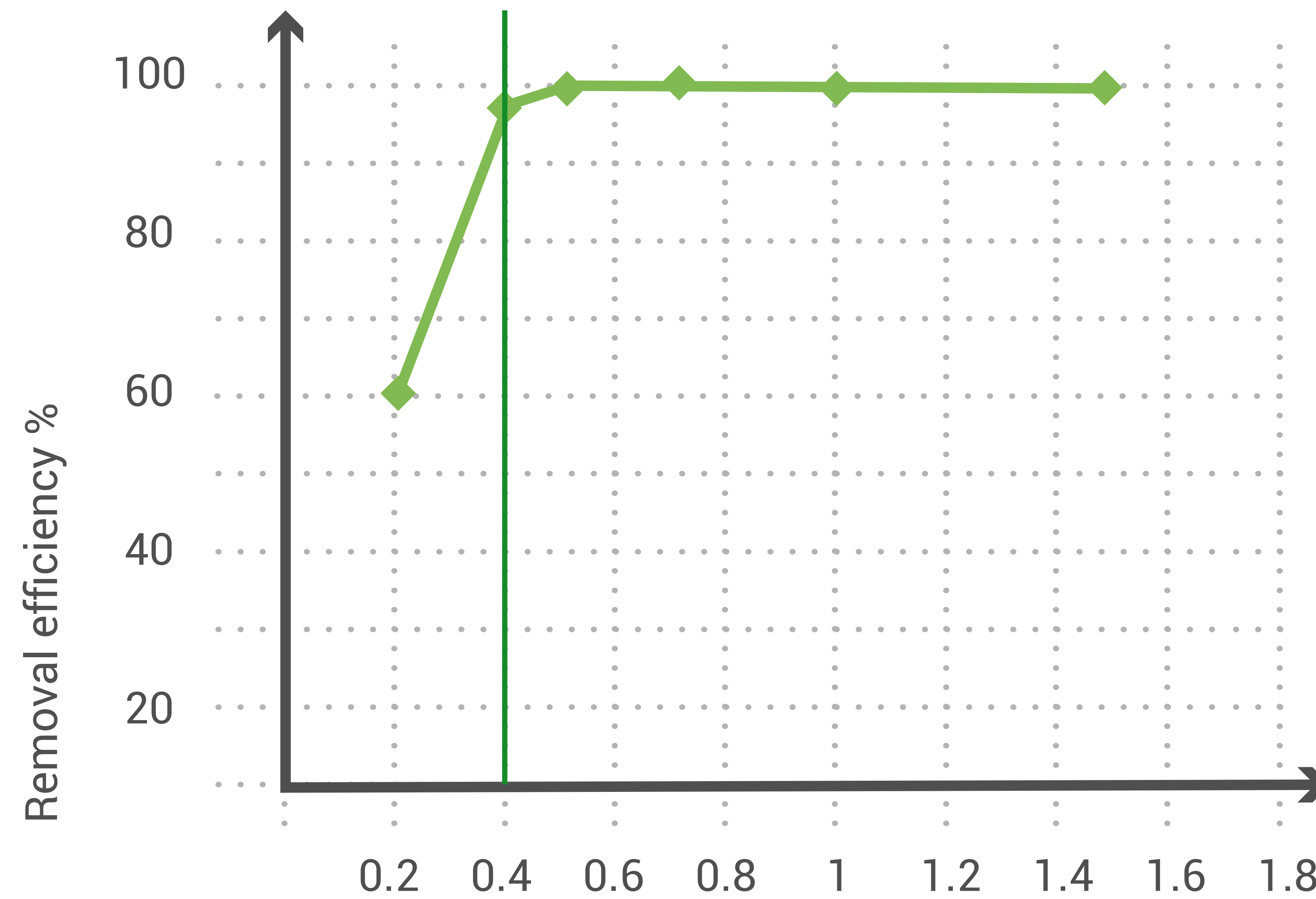
40% ARAGONITE

60% CALCITE

MECHANICAL FILTRATION



SUSPENDED SOLIDS REMOVAL EFFICIENCY

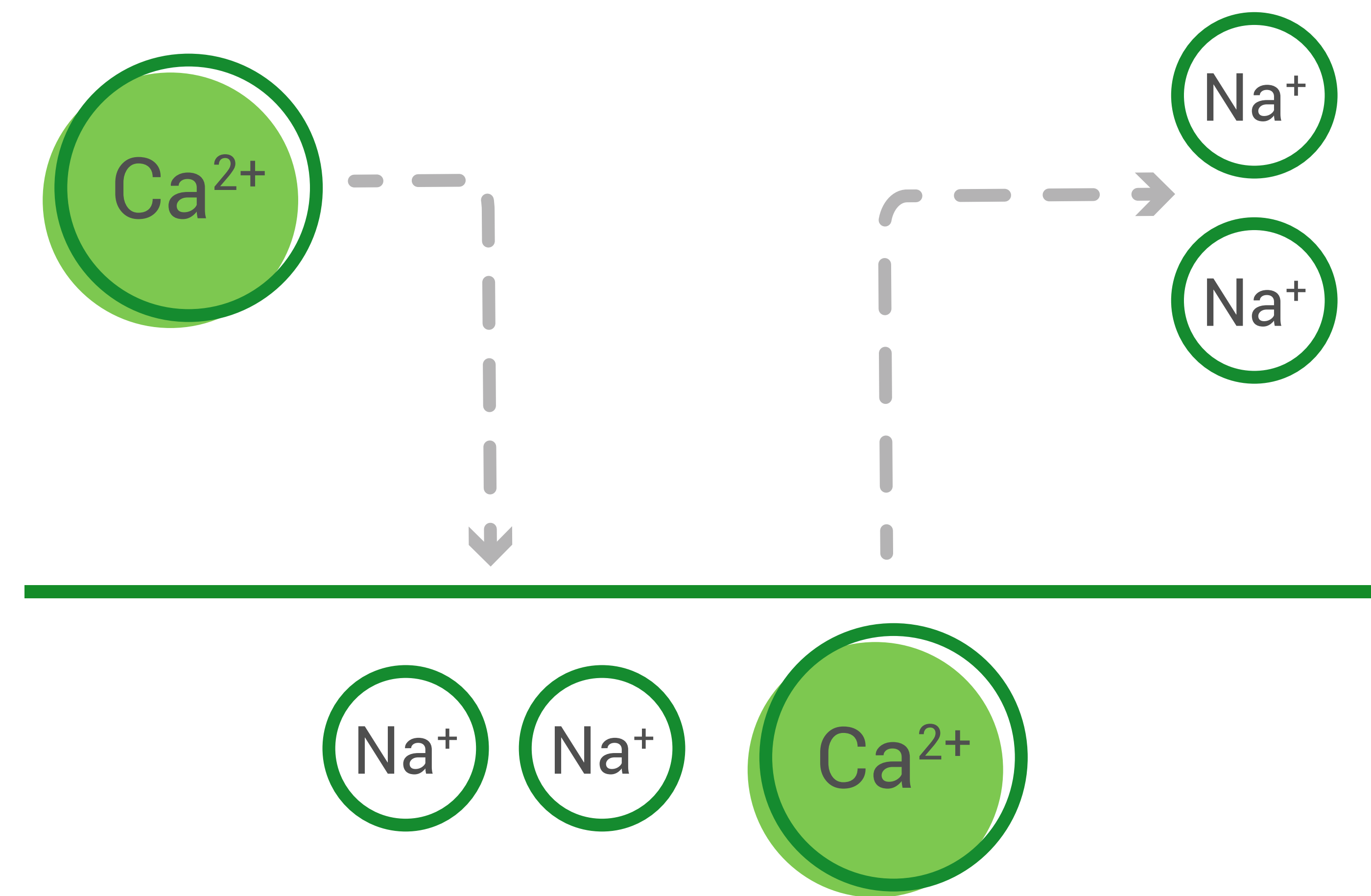


Size of removed particles, μm

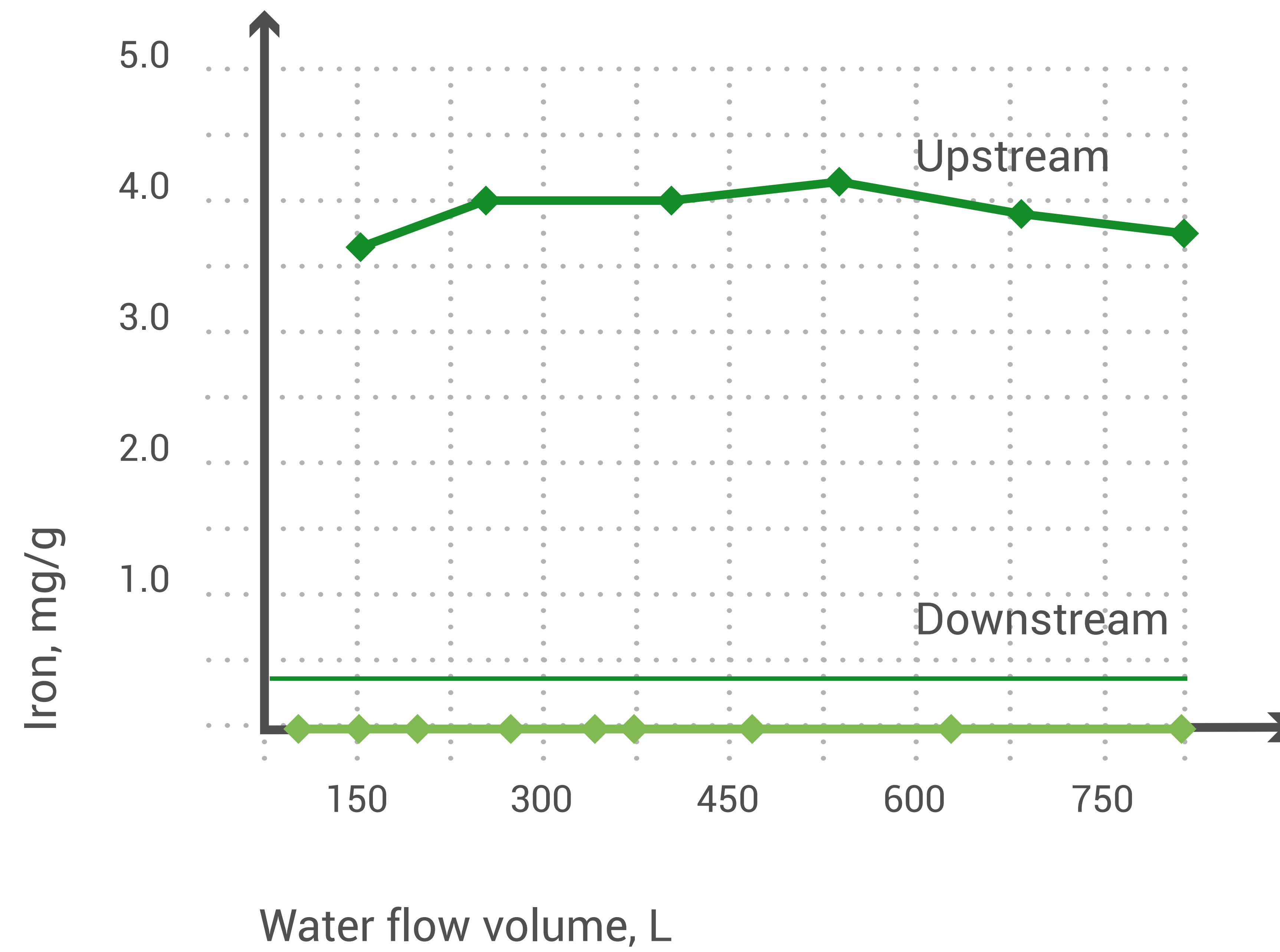
Effective removal of suspended solids
of the target particles' size.



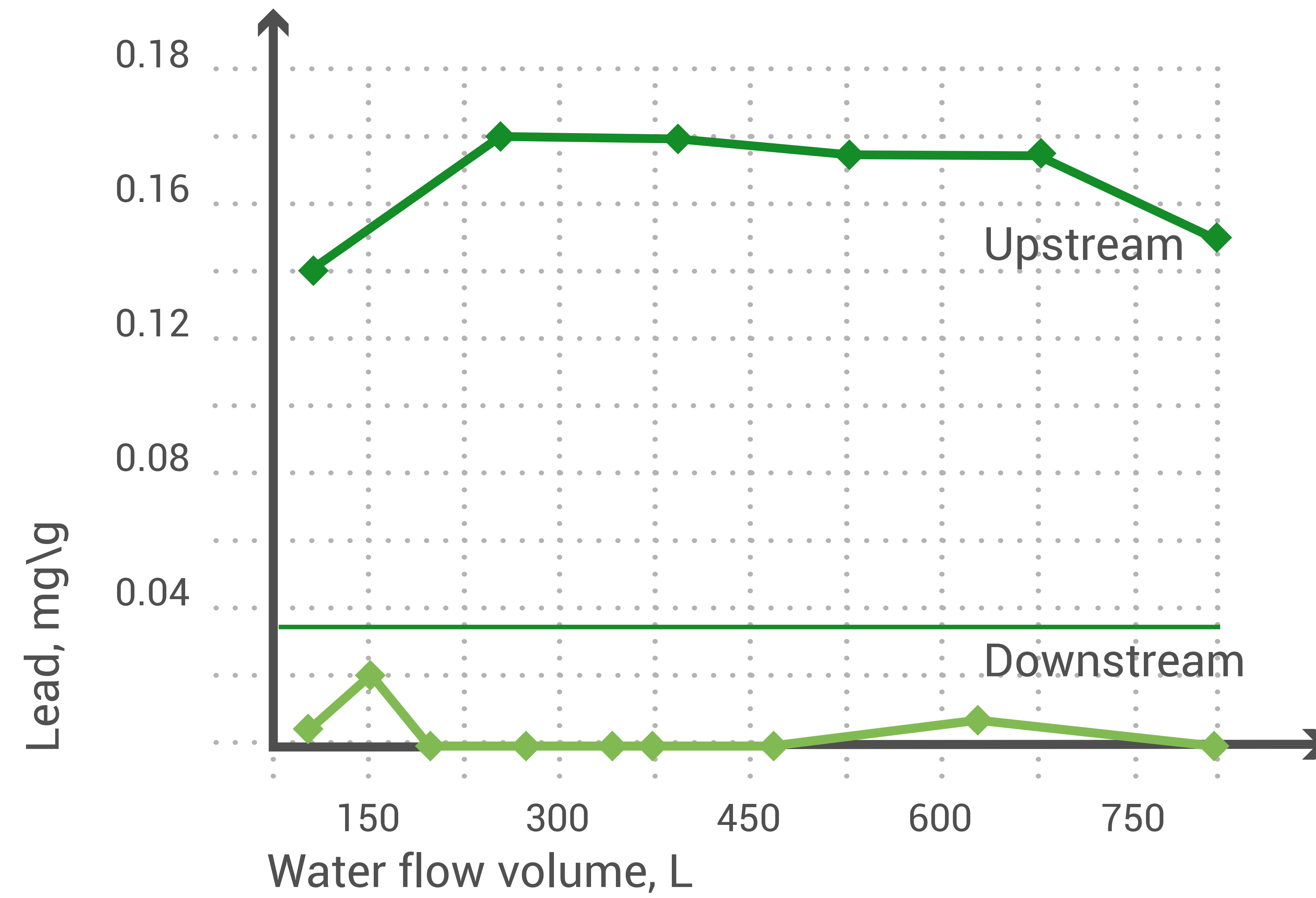
ION EXCHANGE



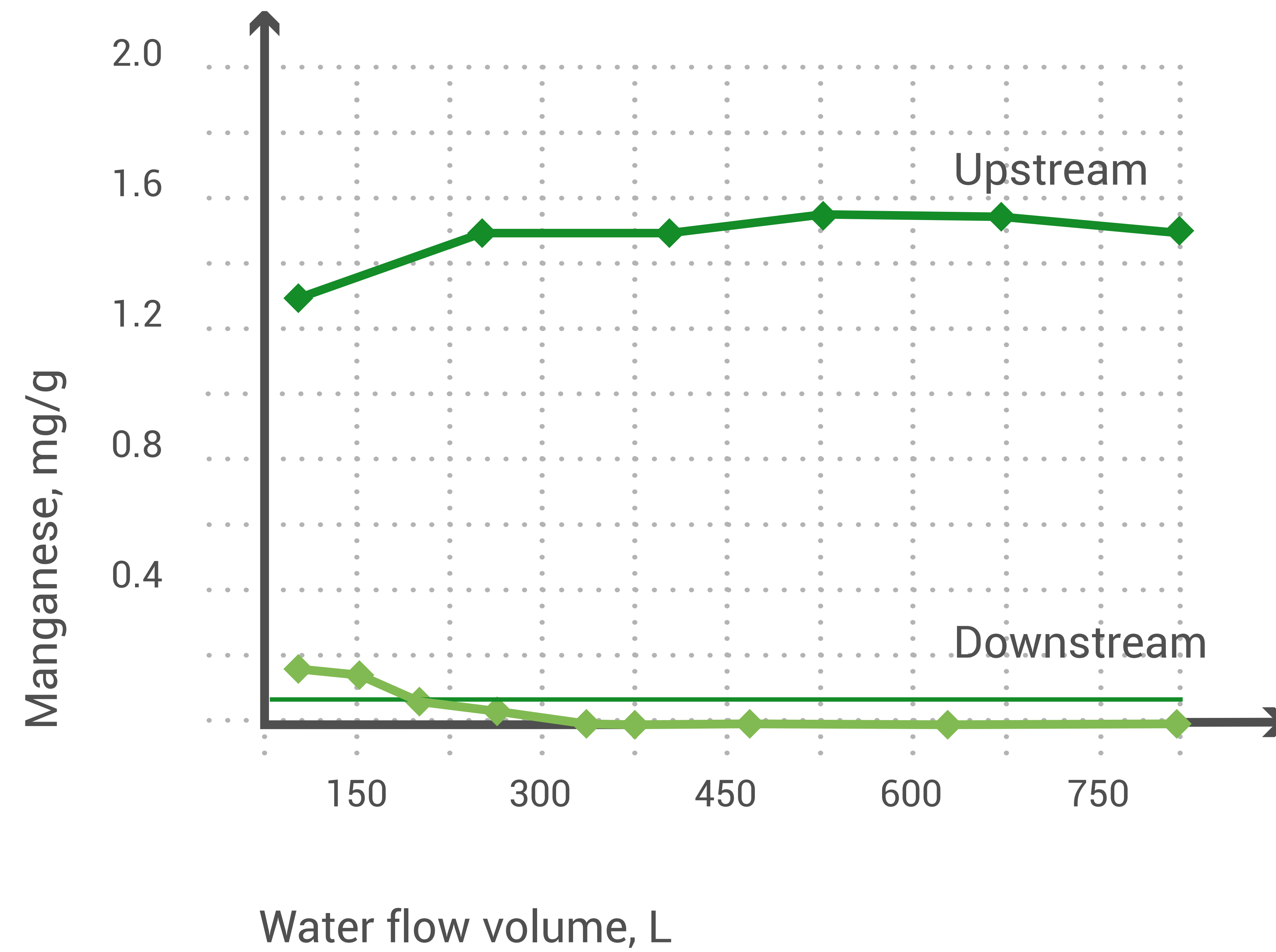
IRON REMOVAL EFFICIENCY



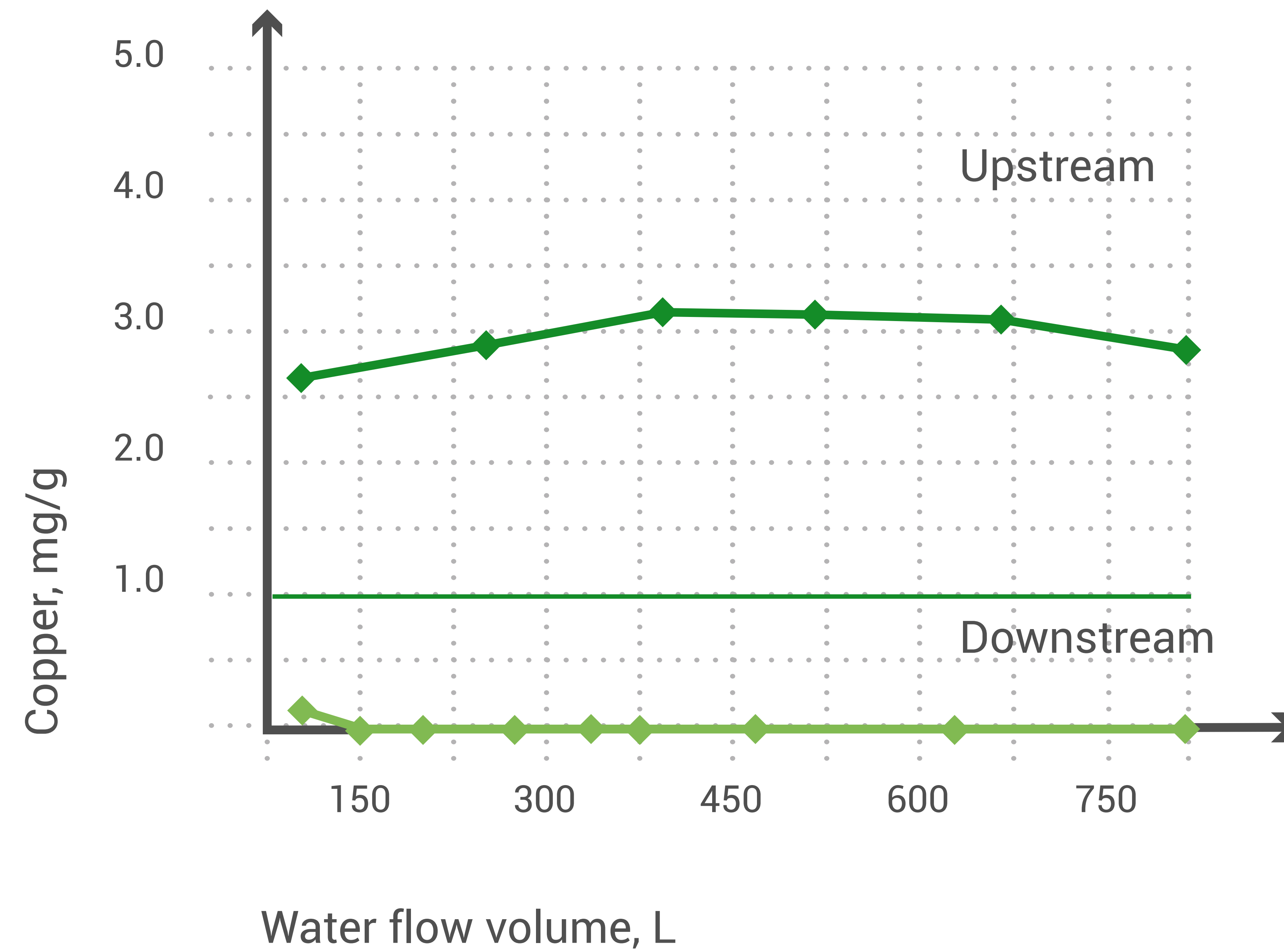
LEAD REMOVAL EFFICIENCY



MANGANESE REMOVAL EFFICIENCY

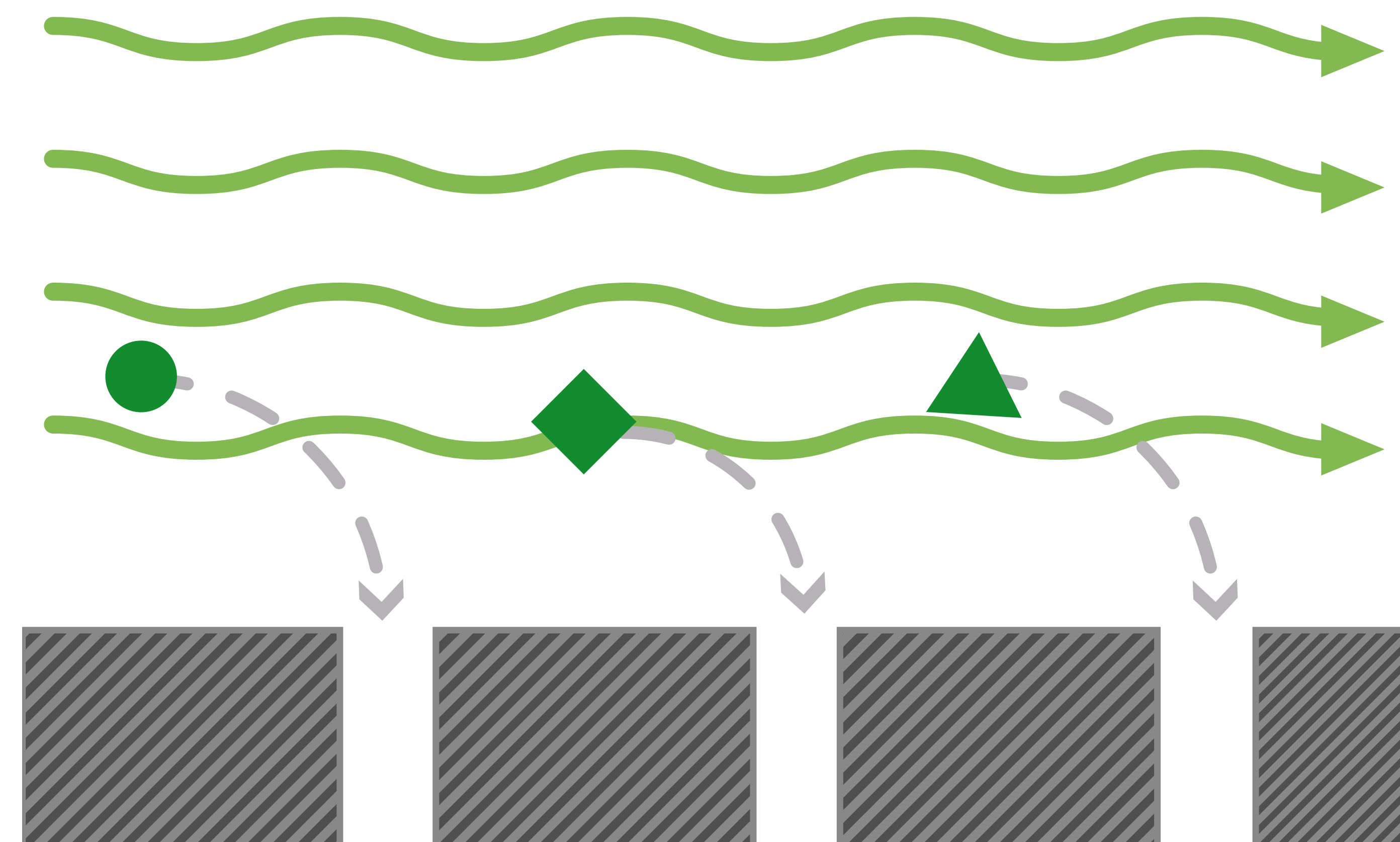


COPPER REMOVAL EFFICIENCY

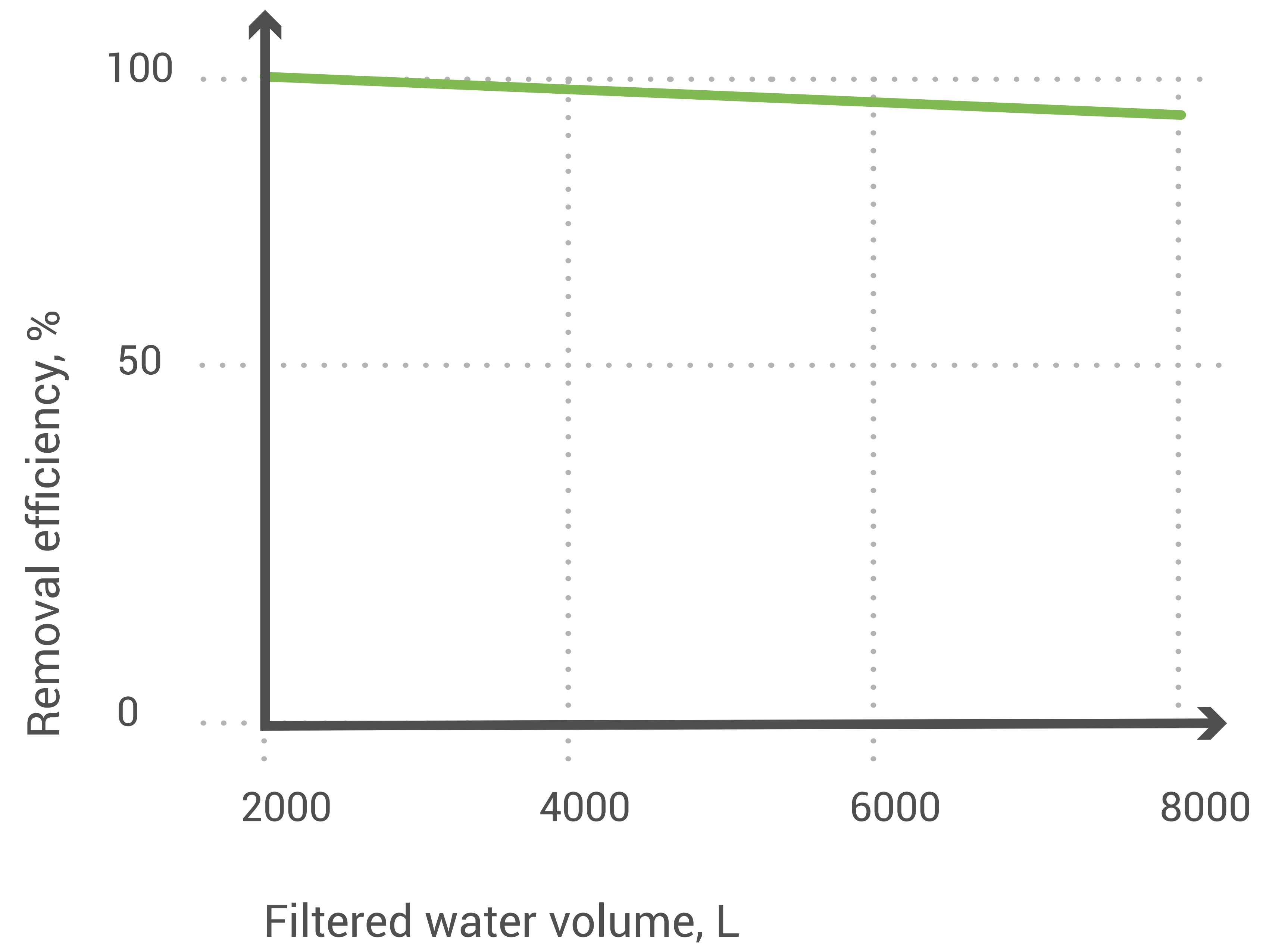


SORPTION

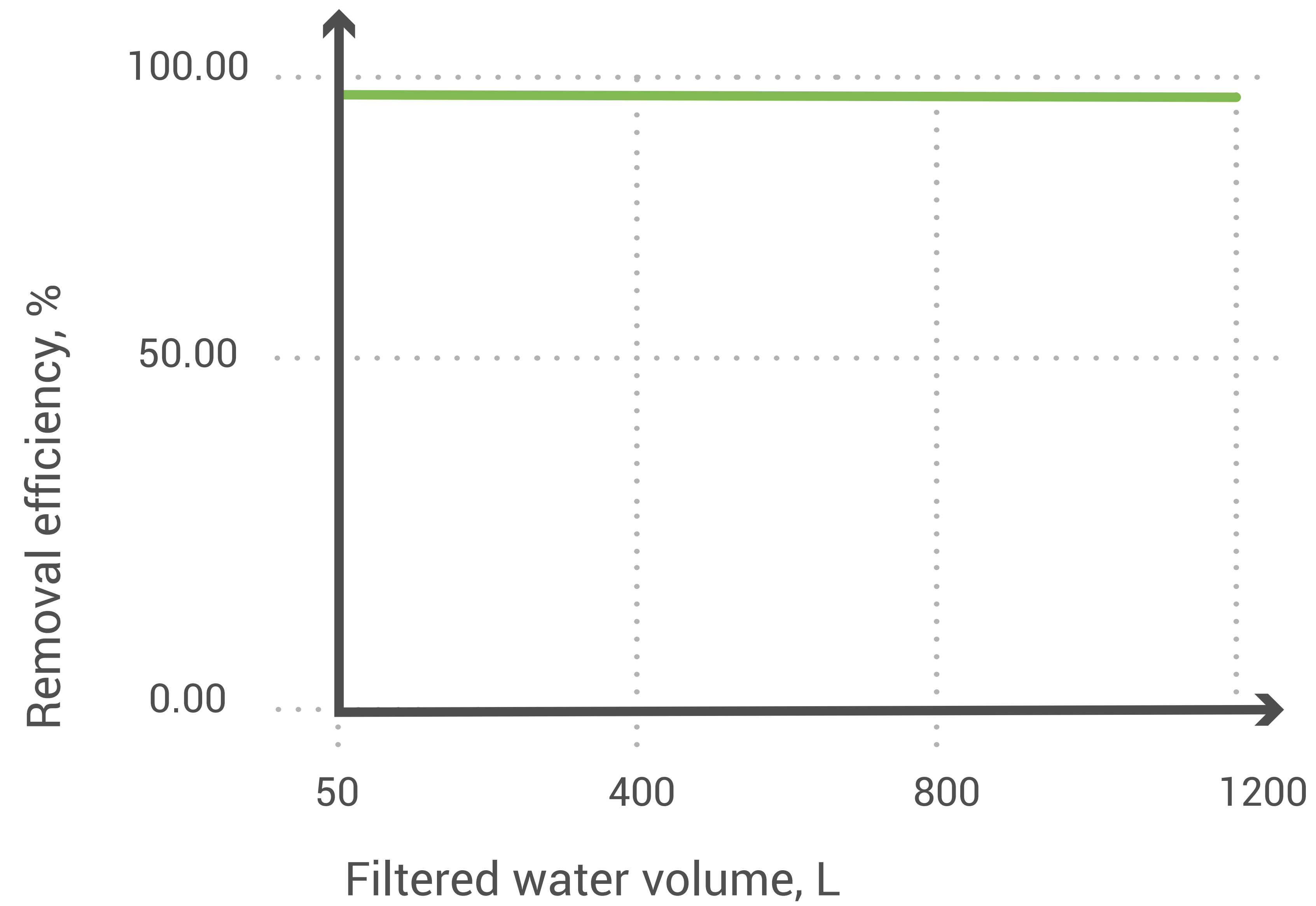
SORPTION PROPERTIES OF ARAGON



FREE CHLORINE REMOVAL



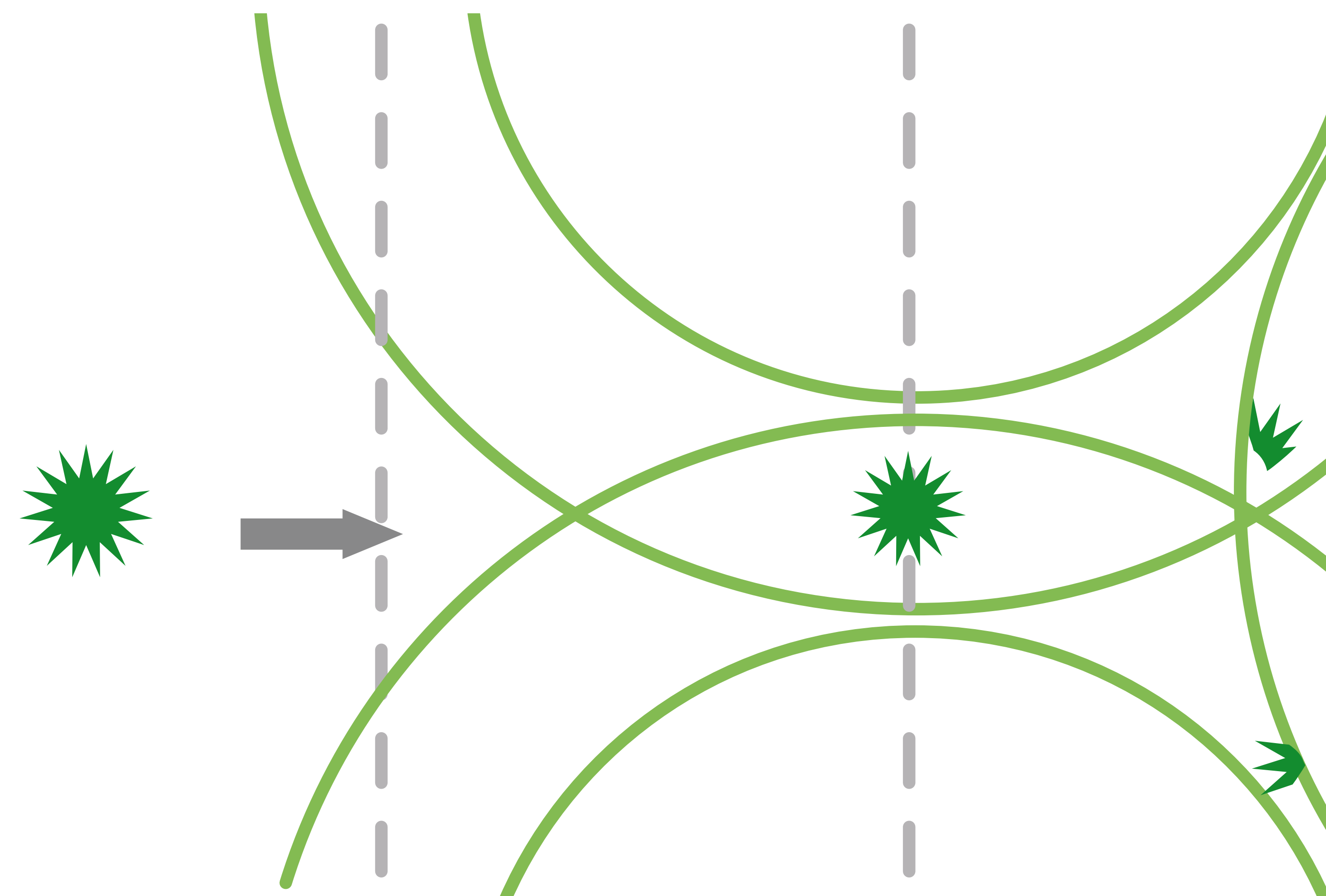
PESTICIDES REMOVAL EFFICIENCY (FOR SIMAZINE)



FILTE R D WATER VOLUME, L	UPSTREAM CONCENTRATION, MG/L	DOWNSTREAM CONCENTRATION, MG/L	REMOVAL EFFICIENCY, %
50	1.1	0.01	97.62
400	1.0	0.015	98.50
800	1.2	0.02	98.33
1200	1.0	0.02	98.00

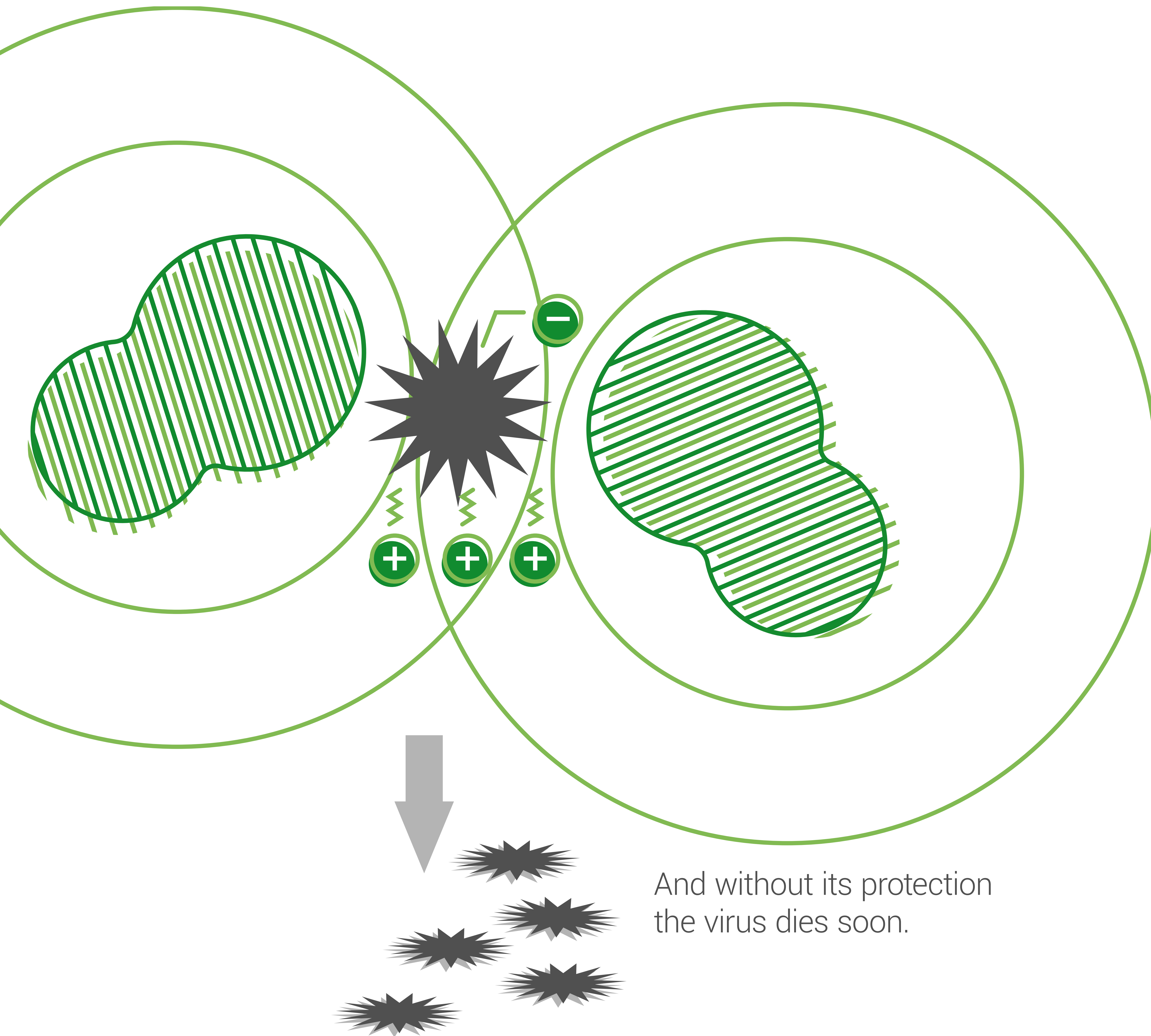
DISINFECTION

REMOVAL OF VIRUSES AND BACTERIA



ELECTROKINETIC IMPACT ON VIRUSES

Electric field causes destruction
of the viruse's protection cover.





INSTITUT PASTEUR DE LILLE (FRANCE)

The institute is named after the famous French microbiologist Louis Pasteur, its founder and the first director. For his prominent services to France Louis Pasteur was buried in Notre-Dame de Paris Cathedral, but later reburied on the territory of the Institute (Lille).

The important discoveries made in Pasteur Institute have contributed to the success of the fight against such virulent diseases as diphtheria, tetanus, tuberculosis, poliomyelitis, influenza, yellow fever and plague. The human immunodeficiency virus was discovered here in 1983. Since 1908 ten scientists of this institute have received Noble Prizes in Medical Science and Physiology.

VIRUSES CLASSIFICATION

VIRUS CLASS	SIZE (NM)	PERCENTAGE (%)	DISEASES
Hepatitis A	27 – 32	94,733	Hepatitis
Norovirus	27 - 40	99.994	Intestinal influenza and acute enteric infection
Rotavirus	60 - 70	99.998	Rotavirus infection
Enterovirus and astroviruses	27 - 30	99,993	Poliomyelitis, etc.
Adenoviruses	70 - 90	99,986	Catarrh of the upper respiratory tract , conjunctivitis, atypical pneumonia, etc.



Aragon passed laboratory testing in Russian and international testing institutions.

THE PROPERTY OF ARAGON BIO TO CAPTURE VIRUSES AND BACTERIA WAS TESTED AND PROVEN



Pasteur Institute of Epidemiology
and Microbiology,
2007 – 2010



Kirov Military Medical
Academy,
2008



A.N. Sysin research institute of human ecology
and environment hygiene,
2011



Influenza Research Institute,
2011

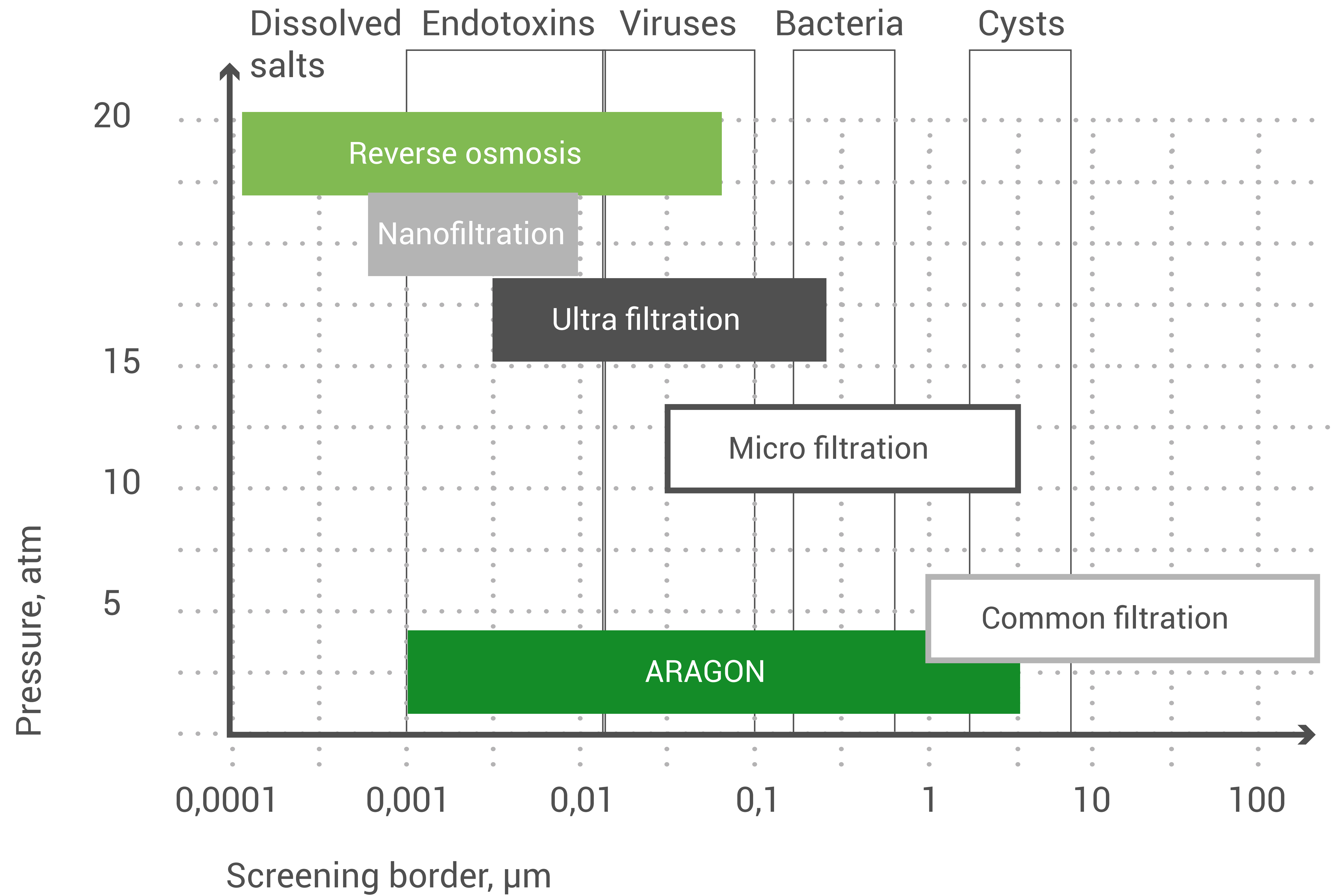


Università di Ferrara,
2012



Institut Pasteur de Lille,
2014

COMPARISON OF WATER PURIFICATION TECHNOLOGY



ADVANTAGES

All filtered out impurities are permanently captured in the labyrinth structure of the cartridge.

A drop of filtered water's pressure is a signal for replacement or regeneration of the cartridge.

Integrated into the cartridge in an unwashable form has an absolutely safe bacteriostatic effect. It is not washed out into the filtered water and guarantees 100% protection against reproduction of filtered out microorganisms.

Allows comprehensive water treatment in the temperature range of +4 to +75°C.

Removal of different groups of contaminants by using several treatment methods simultaneously allows to purify water from all harmful impurities.

A quality of the Aragon cartridge to transform the hardness salts' structure into aragonite - a healthy well absorbed form of calcium.

The cartridge creates an electric field which destroys the viruses' protection cover.



REGENERATION