

The effects of smoking on the tear film and on soft contact lenses

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FUMO e FILM LACRIMALE

Fumo

attivo

passivo

sigarette elettroniche

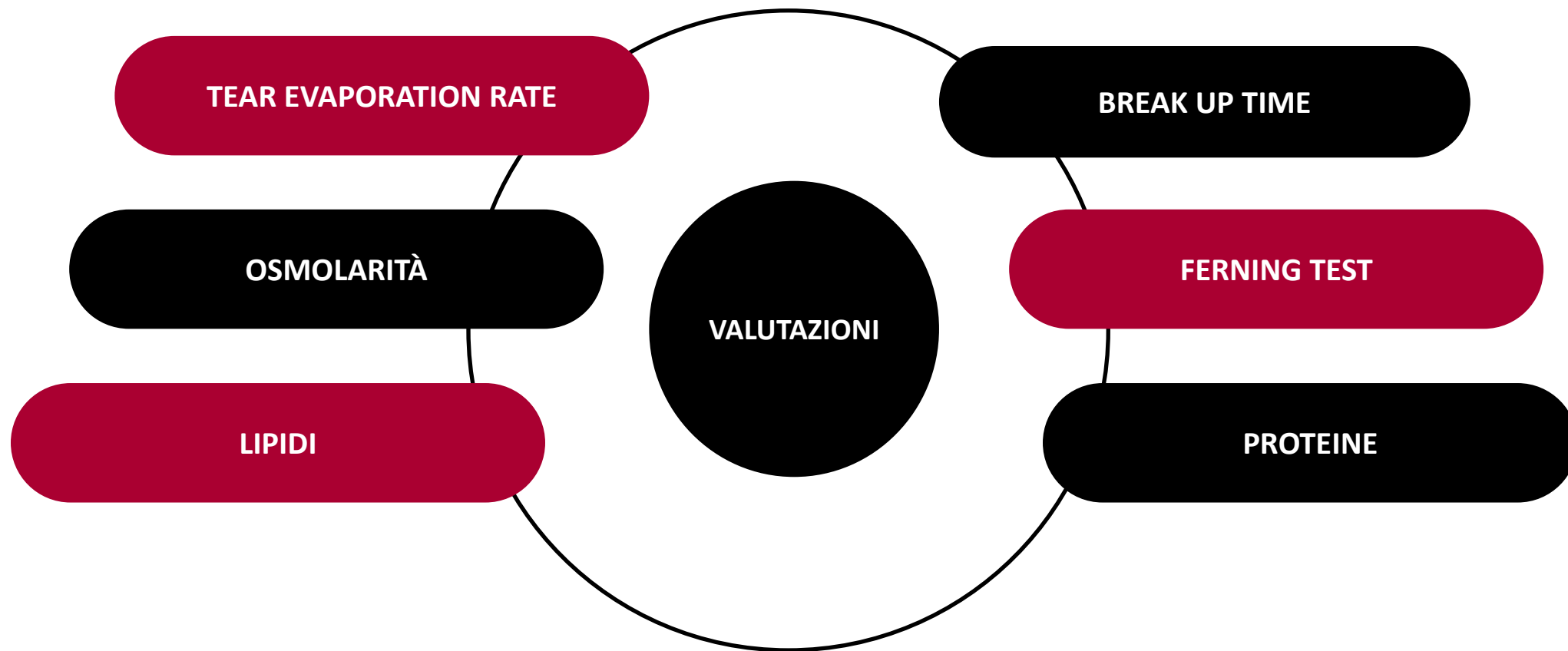
Malattie
sistemiche
e
oculari

Film Lacrimale Precorneale

stabilità

qualità

EFFETTI SUL FILM LACRIMALE



MECCANISMO DI AZIONE



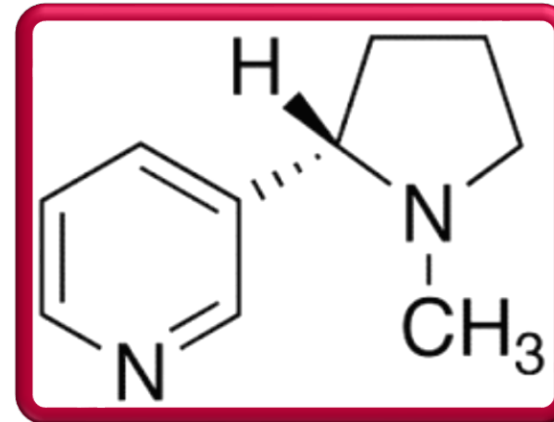
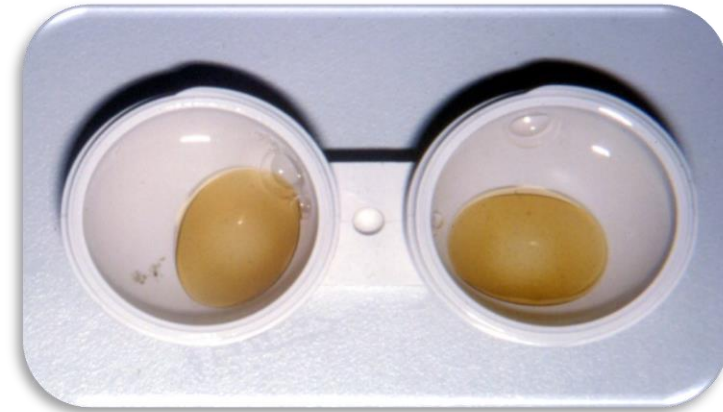
NICOTINA ($C_{10}H_{14}N_2$) e LENTI A CONTATTO

Infiltrati corneali

Cheratiti microbiche

Contaminante extra oculare

Estratta dalle foglie di *Nicotiana
Tabacum*



LENTI A CONTATTO MORBIDE

IDROGEL

Gruppo I

basso contenuto
idrico, non ionici

Polymacon

Gruppo II

alto contenuto idrico,
non ionici

Nesofilcon A,
Omafilcon A

Gruppo III

basso contenuto
idrico, ionici

Gruppo IV

alto contenuto idrico,
ionici

Etafilcon A, Filcon IV,
Methafilcon A e Ocufilecon D

SILICONE IDROGEL



Gruppo V

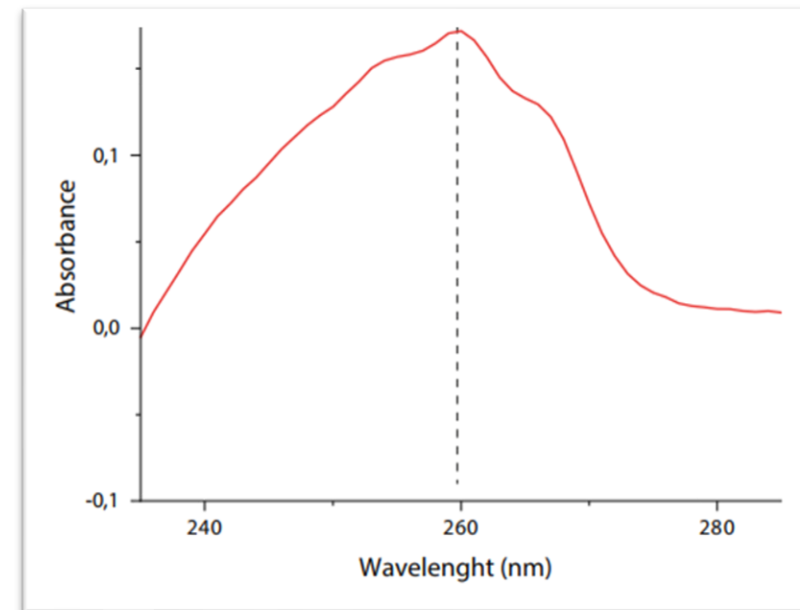
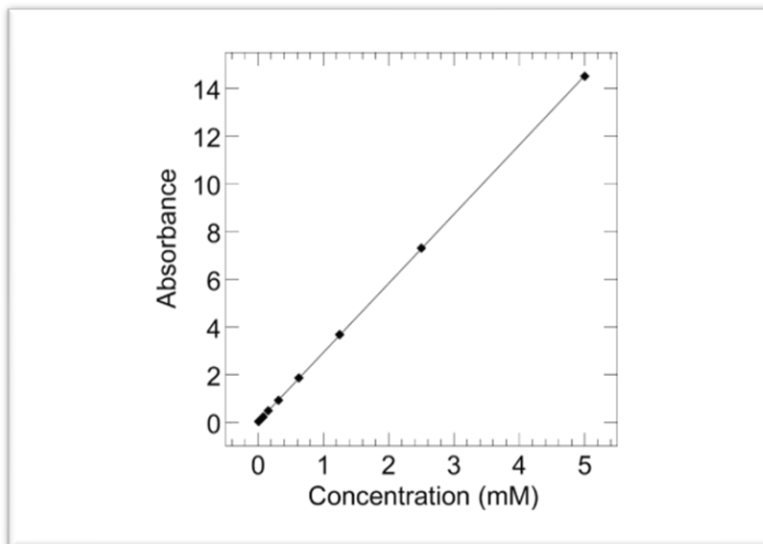
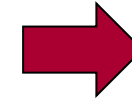
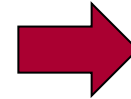
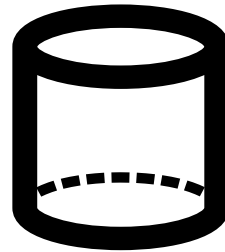
silicone idrogel

Comfilcon A, Lotrafilcon A e
Lotrafilcon B

PROCEDURA

ASSORBIMENTO NICOTINA

RILASCIO NICOTINA

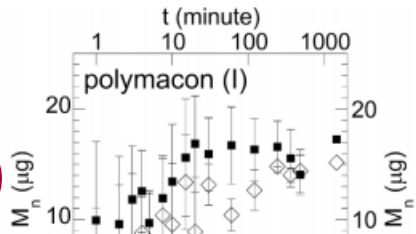


RISULTATI

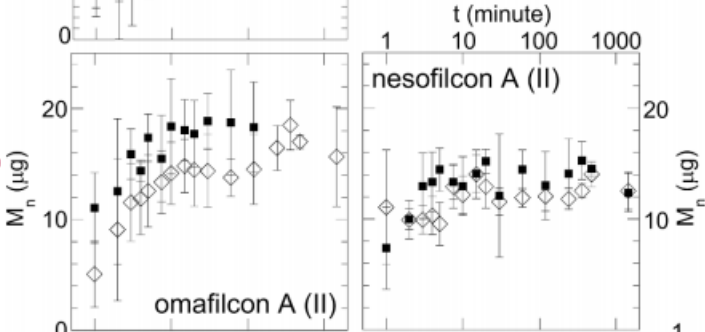
Rappresentazione massa in funzione del tempo

Legenda:
Quadrati = assorbimento
Rombi = rilascio

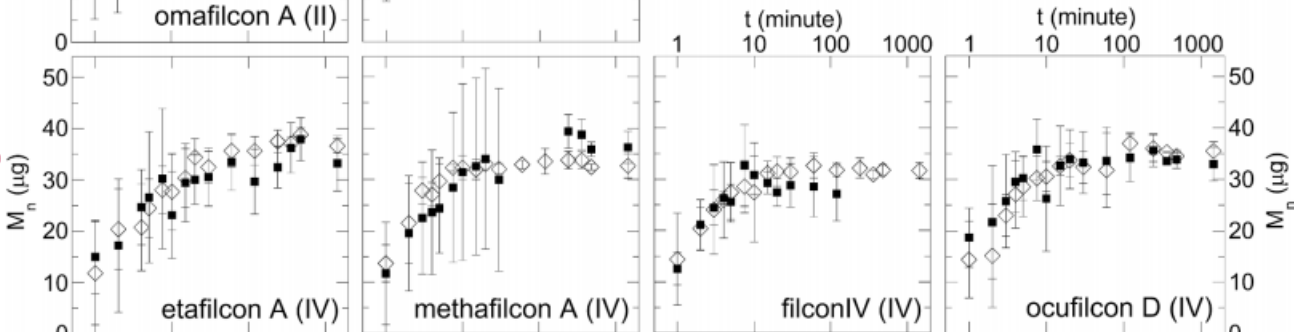
I



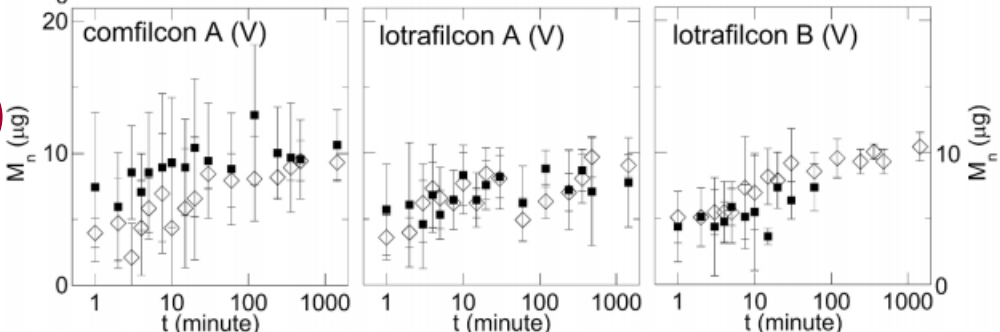
II



IV



V



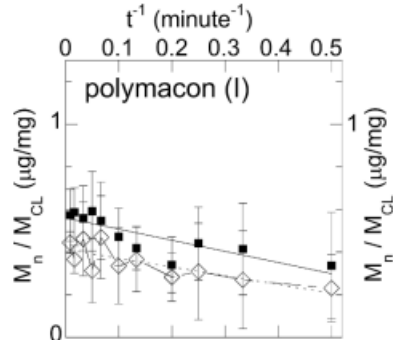
Durante i primi minuti

Plateau 10minuti

Rilascio ≈ Assorbimento

RISULTATI

I



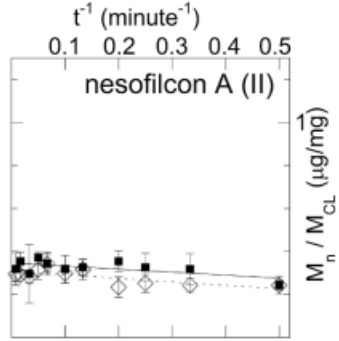
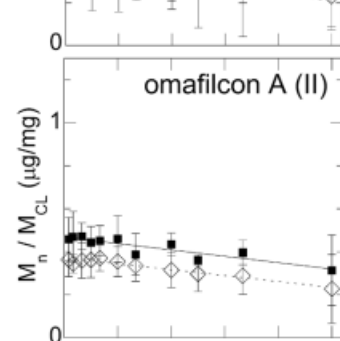
Differenze nel contenuto idrico e nella massa totale del polimero

Dati normalizzati

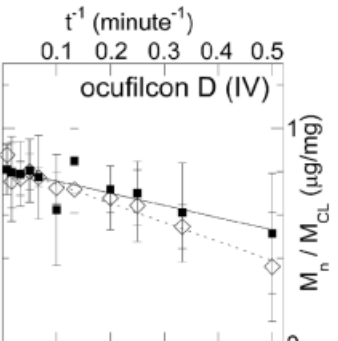
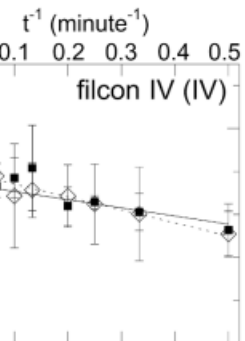
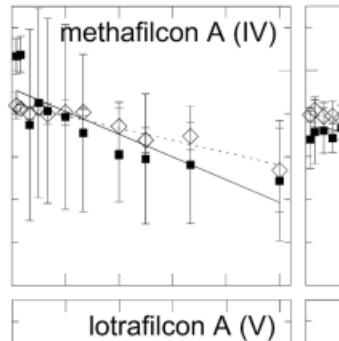
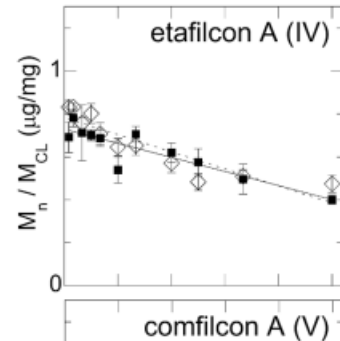
Massa normalizzata in funzione dell'inverso del tempo

$$y = b - a * t^{-1}$$

II

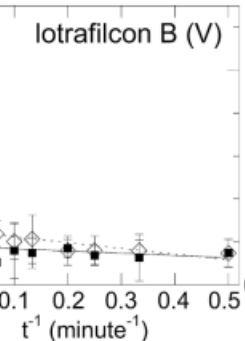
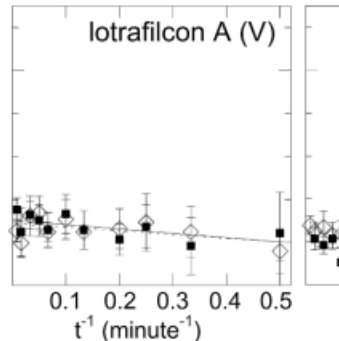
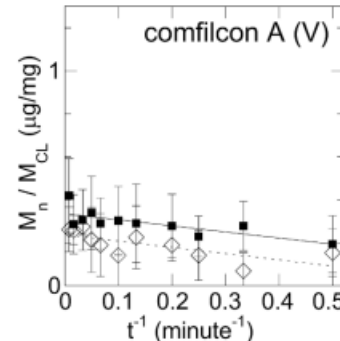


IV



a e b sono due costanti positive
t è il tempo
y è la massa di nicotina assorbita o rilasciata normalizzata alla massa della LAC idratata

V



FDA group	Material		a	b
I	Polymacon	abs.	0.5221	0.5608
		rel.	0.4096	0.4133
II	Omafilcon A	abs.	0.2968	0.4680
		rel.	0.2739	0.3709
	Nesofilcon A	abs.	0.1397	0.3459
		rel.	0.1635	0.3081
IV	Etafilcon A	abs.	0.6567	0.7292
		rel.	0.7938	0.7830
	Methafilcon A	abs.	1.0605	0.9173
		rel.	0.5681	0.8465
	Filcon IV	abs.	0.3804	0.7452
		rel.	0.6044	0.8030
	Ocufilecon D	abs.	0.5660	0.8127
		rel.	0.8846	0.8299
V	Comfilcon A	abs.	0.2835	0.3360
		rel.	0.2913	0.2375
	Lotrafilcon A	abs.	0.2026	0.3034
		rel.	0.1717	0.2883
	Lotrafilcon B	abs.	0.1044	0.1791
		rel.	0.2679	0.2509

B = massa normalizzata al plateau

IV
GRUPPO



I-II
GRUPPO

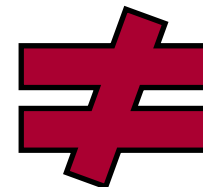


V
GRUPPO

RISULTATI

Diffusione del soluto nella LAC

Contenuto idrico all'equilibrio e
concentrazione di nicotina



Risultati ottenuti

IV
GRUPPO

CONCLUSIONI

Assorbimento e rilascio veloce
(~ 10 min)

Nicotina assorbita=rilasciata in
salina

Valori maggiori rispetto ad
diffusione

Influenzato dal materiale

Azoto ionizzabile

A solid red vertical bar is located on the left side of the slide.

Thank you for your attention!