

# Лабораторная диагностика паразитарных болезней. Современное состояние проблемы.

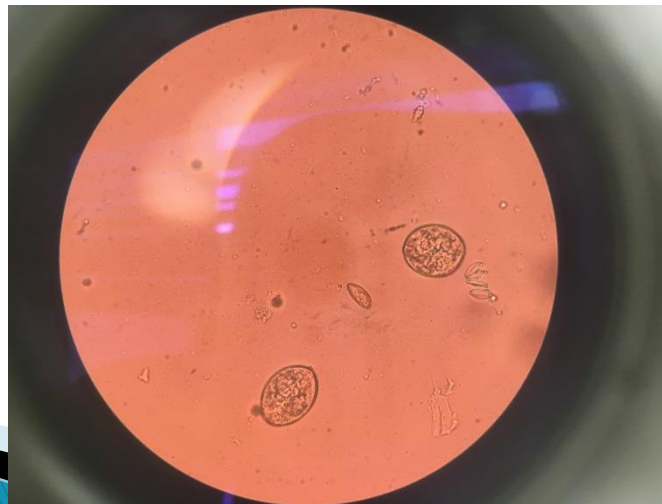
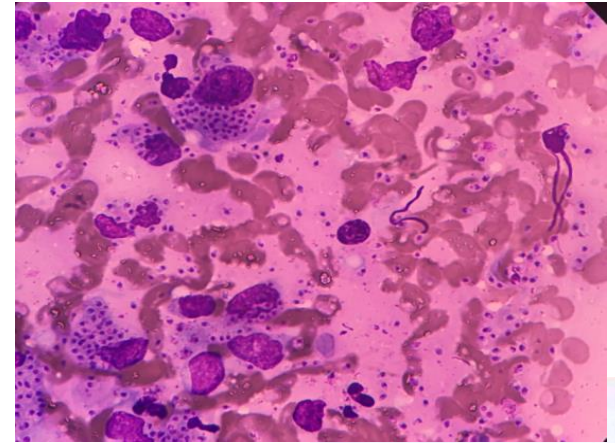
Головченко Н. В., Ермакова Л. А.,  
Алешукина А. В.

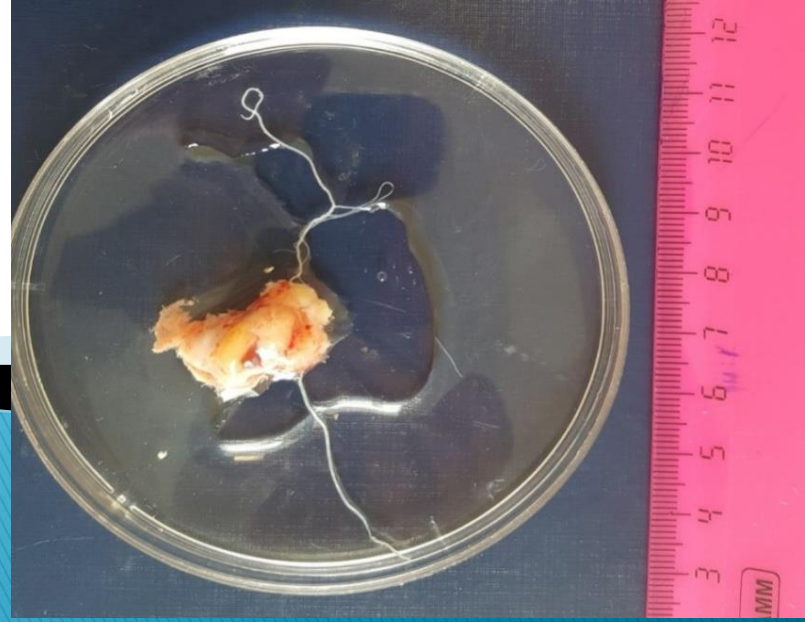
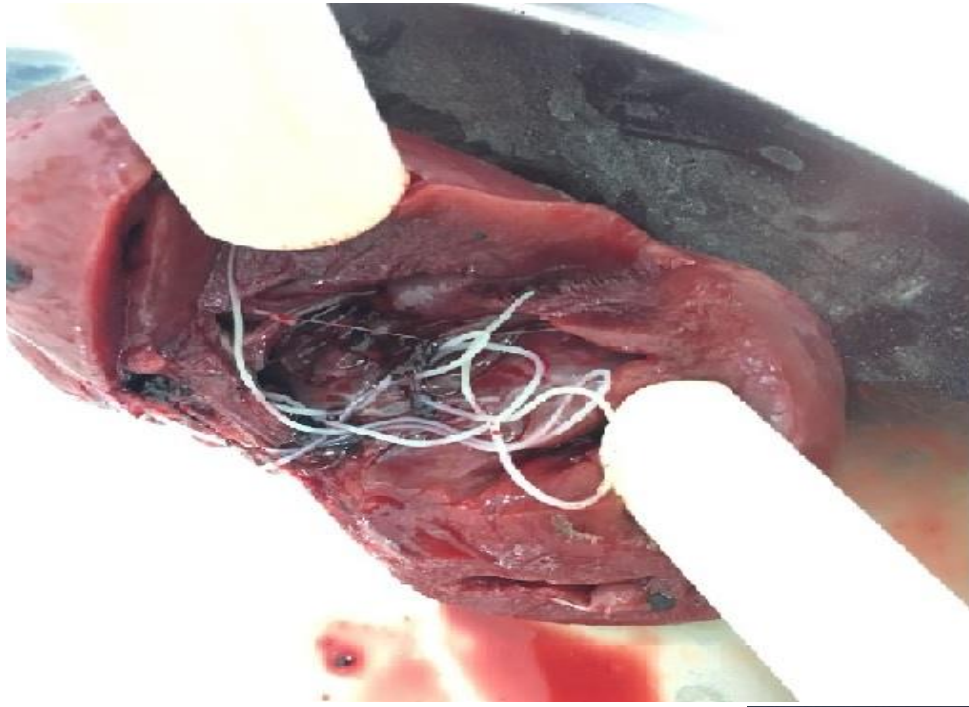
# Микро- макроscopicкие

Макро – и микроскопические методы лабораторной диагностики являются прямыми методами обнаружения возбудителей инфекционных и паразитарных болезней при обнаружении и идентификации которых не требуются косвенные методы исследования



Фрагмент стробилы лентеца широкого (*Diphyllobothrium latum*). ©



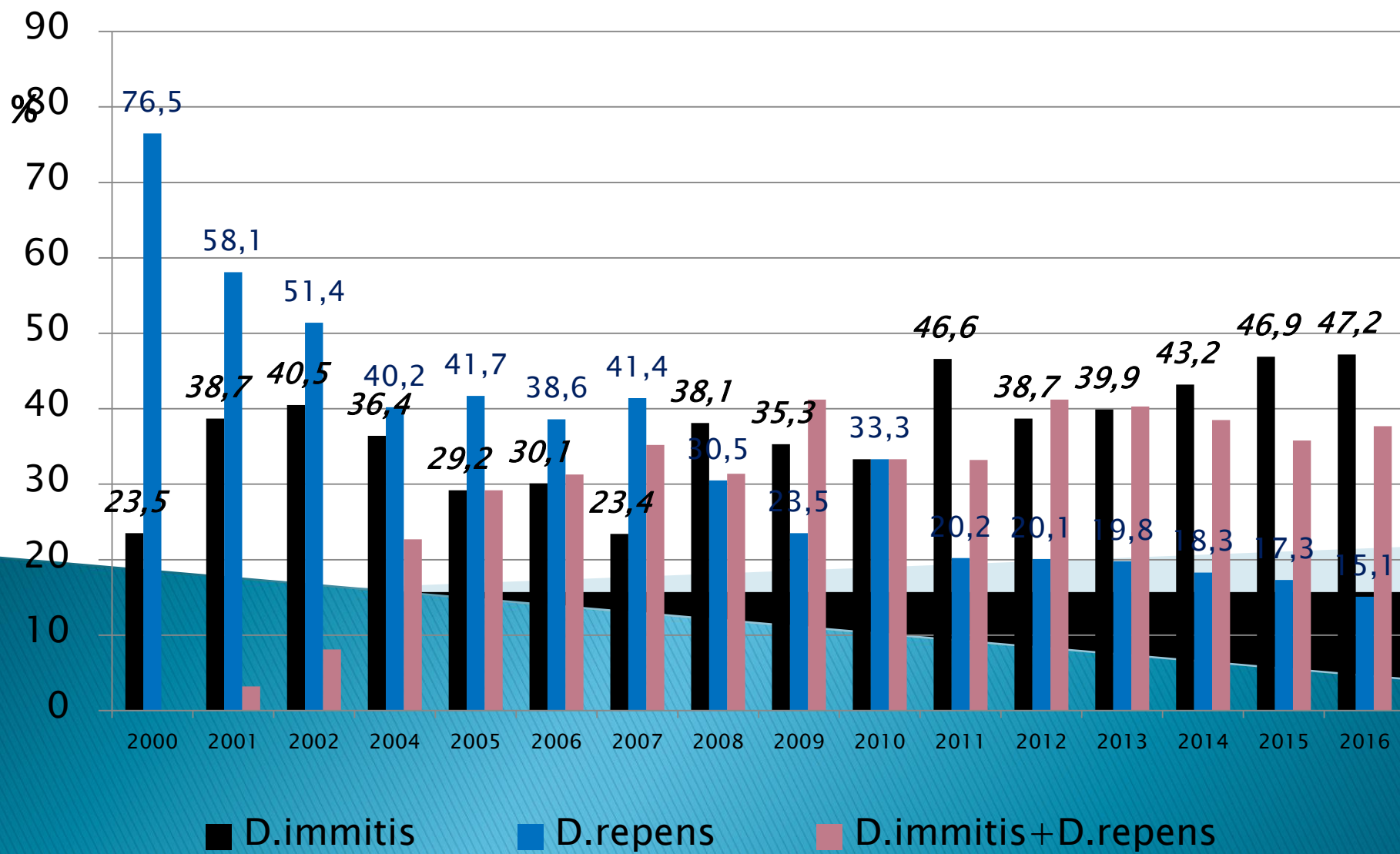


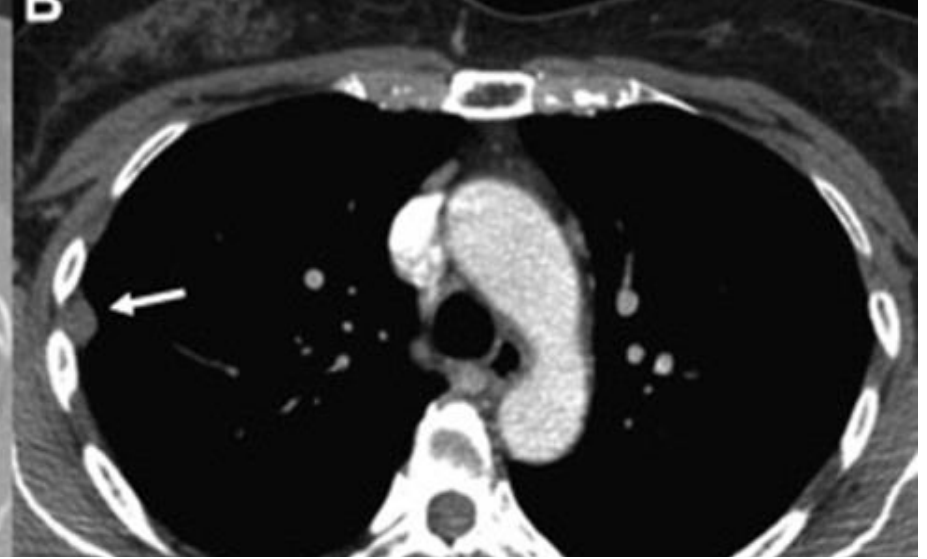
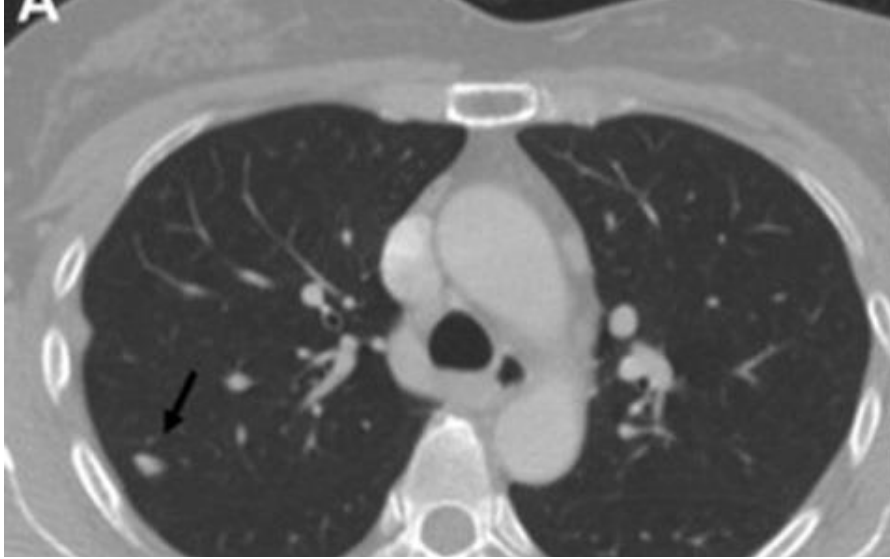


# Инвазия *Dirofilaria repens*



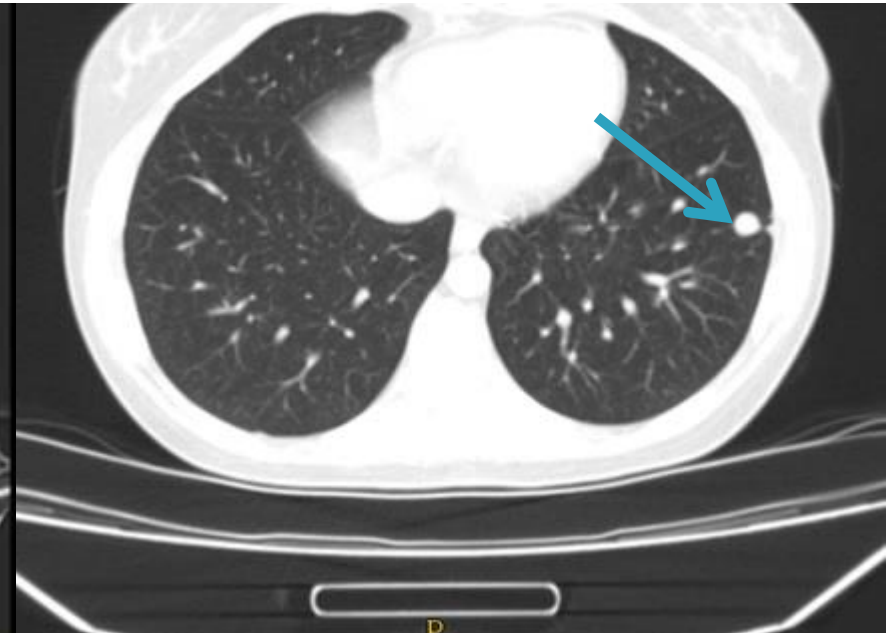
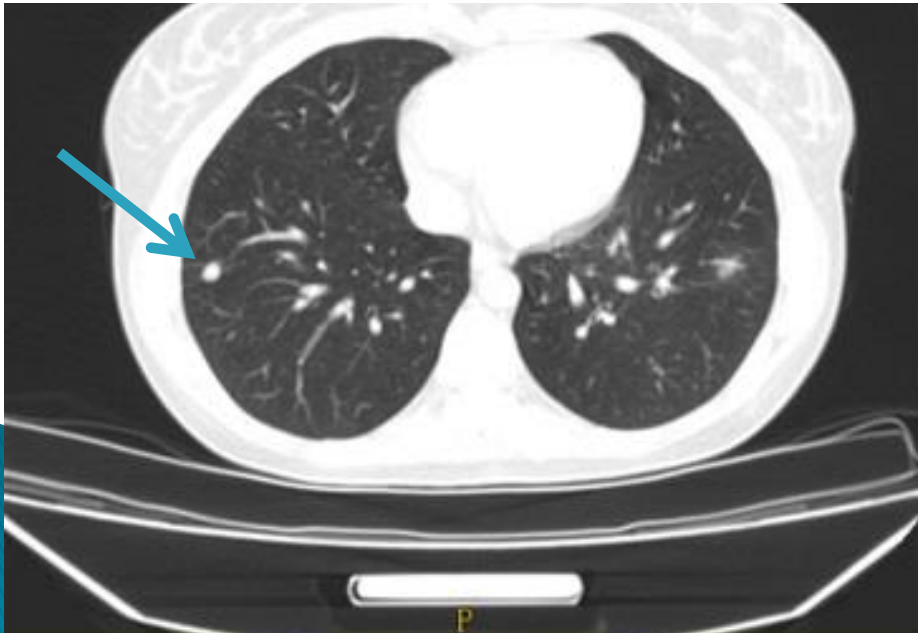
# Динамика видового состава дирофилярий у собак в Ростовской области (2000–2017гг.)





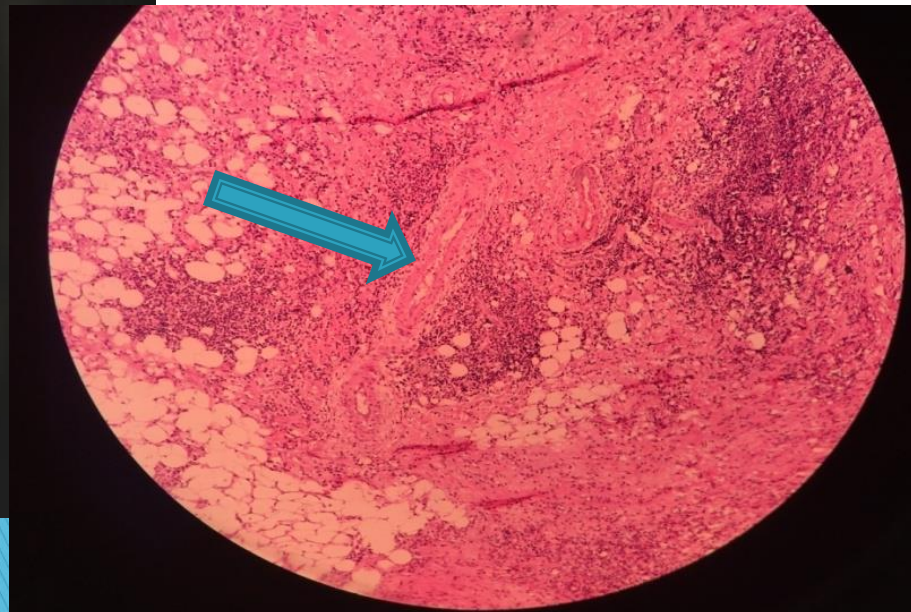
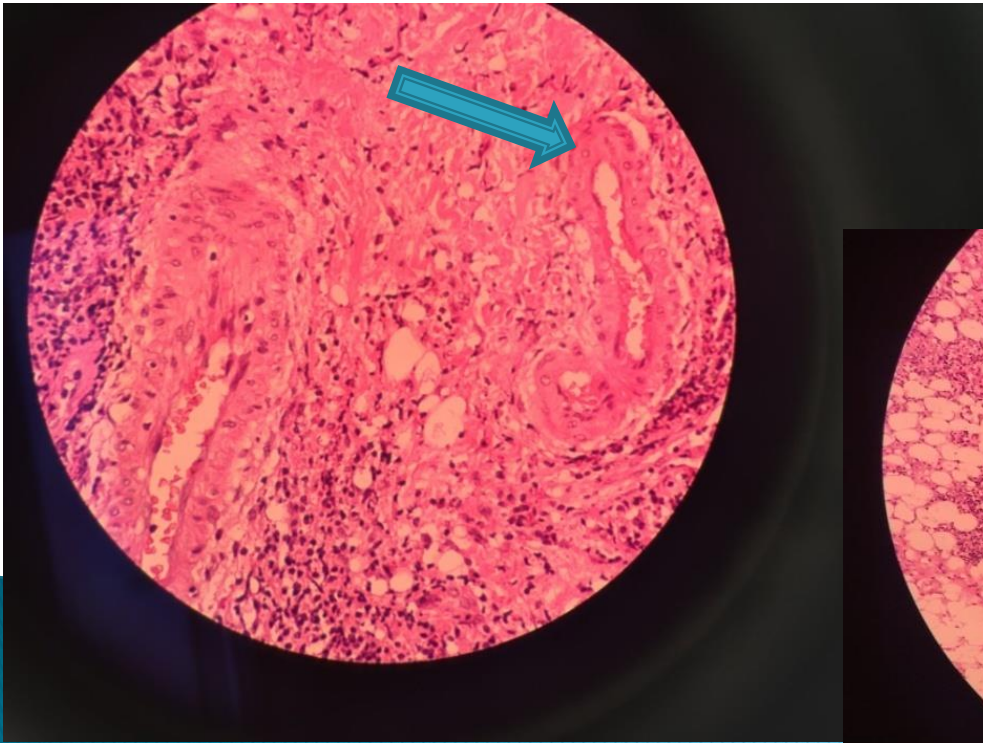
**Akira Haro, Sadafumi Tamiya, and Akira Nagashima. A rare case of human pulmonary dirofilariasis with a growing pulmonary nodule after migrating infiltration shadows, mimicking primary lung carcinoma.**

*Int. J. Surg. Case Rep* 2016; 22: 8–11

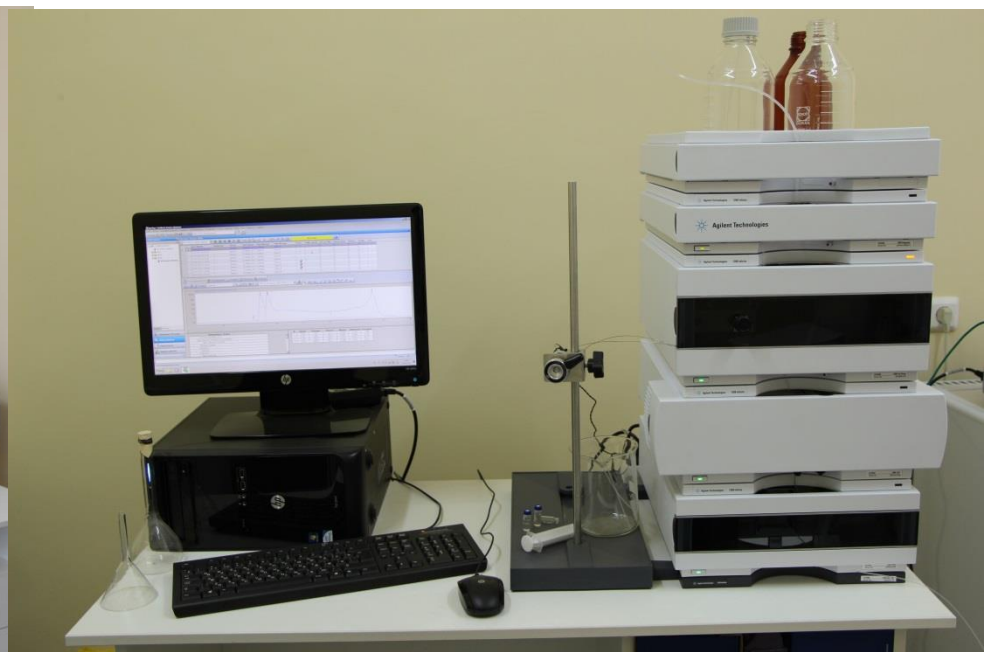




**Гистологический препарат образования  
нижней доли правого легкого(жительница  
Воронежской области, 45 лет, июль 2018  
года**



# Современное оборудование для микробиологических исследований



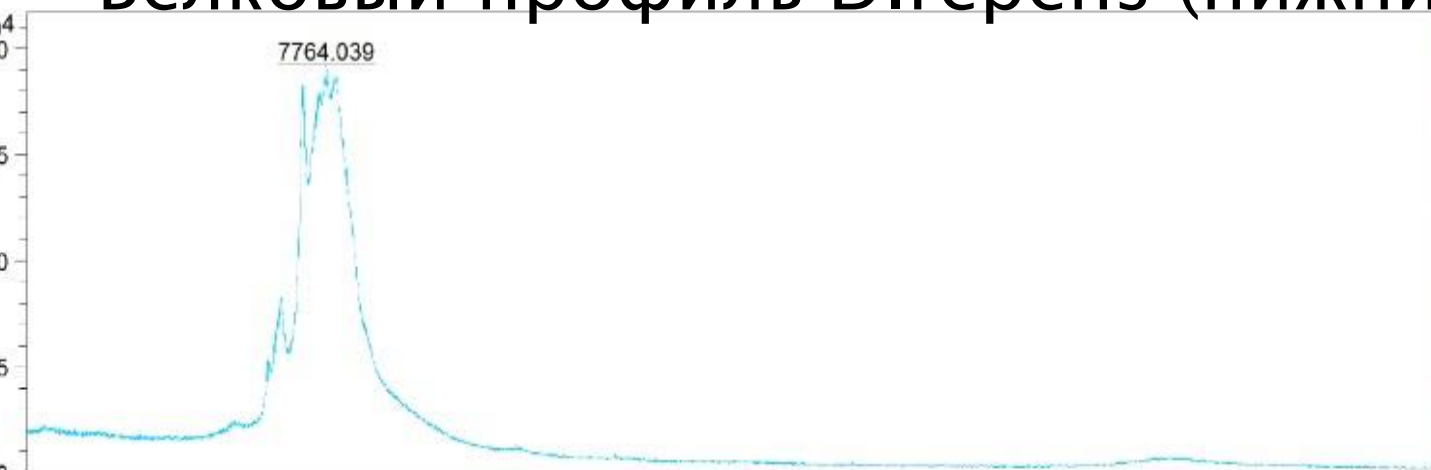
- Бактериологический анализатор
- Масс-спектрометр





# Белковый профиль D.immitis (верхний график)

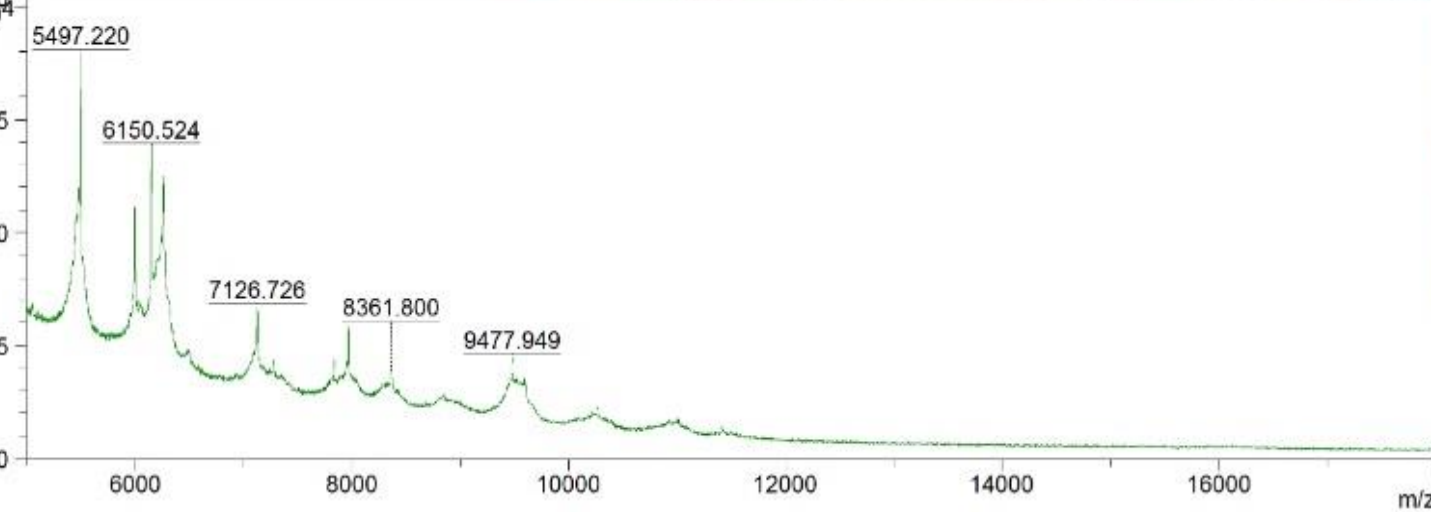
# Белковый профиль D.repens (нижний график)



**Target**  
Position

**Laser**  
Laser beam attenuation  
Laser repetition rate  
Number of shots

**Spectrometer**  
positive voltage polarity  
PIE delay  
Ion source voltage 1  
Ion source voltage 2  
Lens voltage  
Linear detector voltage  
Deflection on  
Deflection mass  
SampleRate



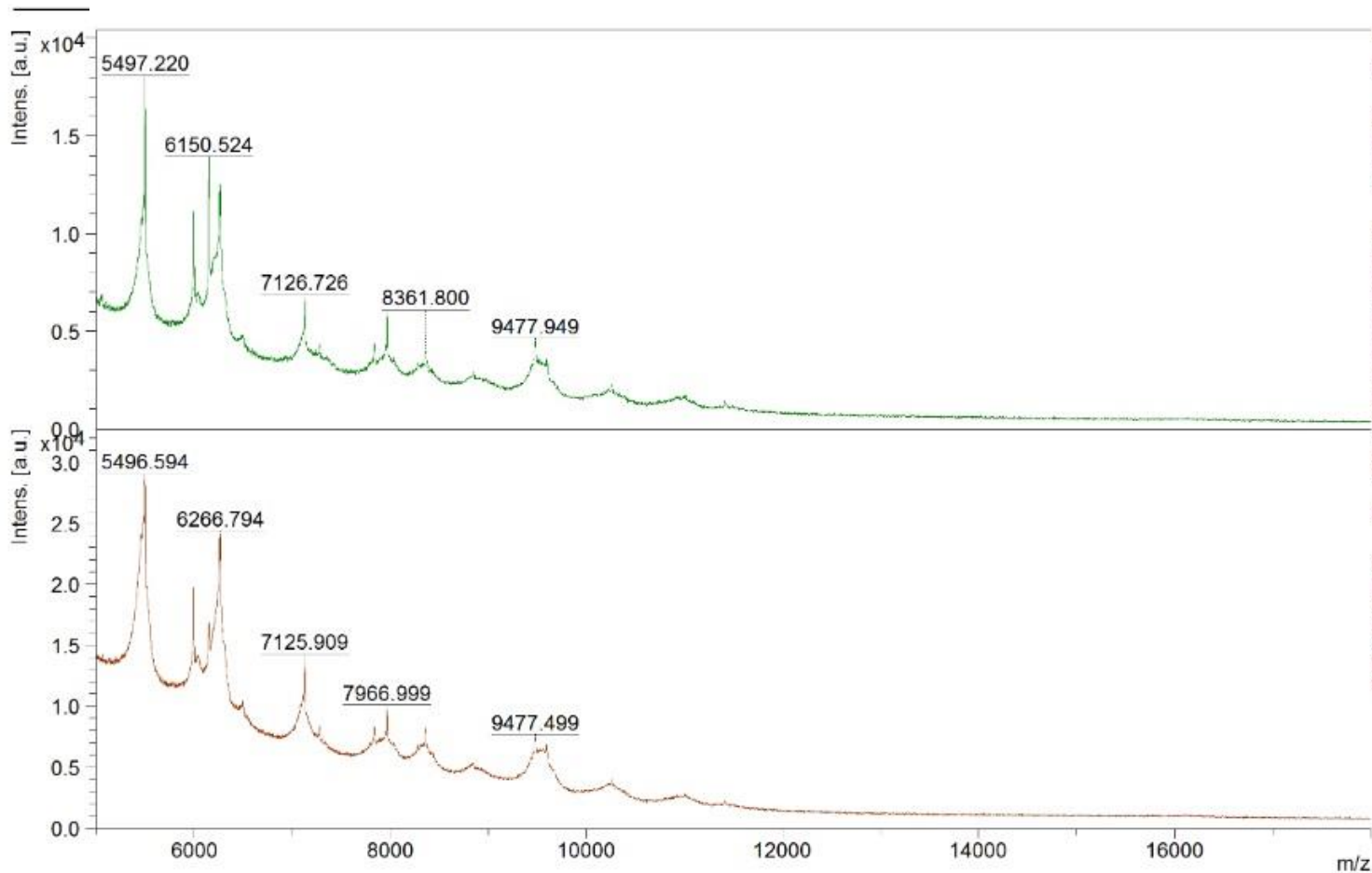
Reflector voltage 1  
Reflector detector voltage

MSMS parent mass

**Instrument**  
Instrument type  
Serial instrument number  
Name of computer  
Operator ID or name  
flexControl version  
flexAnalysis version

of Acquisition  
sition method  
ssing method  
ame

# Белковый профиль D.repens



## Target

Position B9

## Laser

Laser beam attenuation 38.333  
Laser repetition rate 60 Hz  
Number of shots 160

## Spectrometer

positive voltage polarity POS  
PIE delay 100 ns  
Ion source voltage 1 20 kV  
Ion source voltage 2 18.1 kV  
Lens voltage 6 kV  
Linear detector voltage 2.757 kV  
Deflection on Deflection mass  
SampleRate 2 ns

Reflector voltage 1 0 kV  
Reflector detector voltage 0 kV

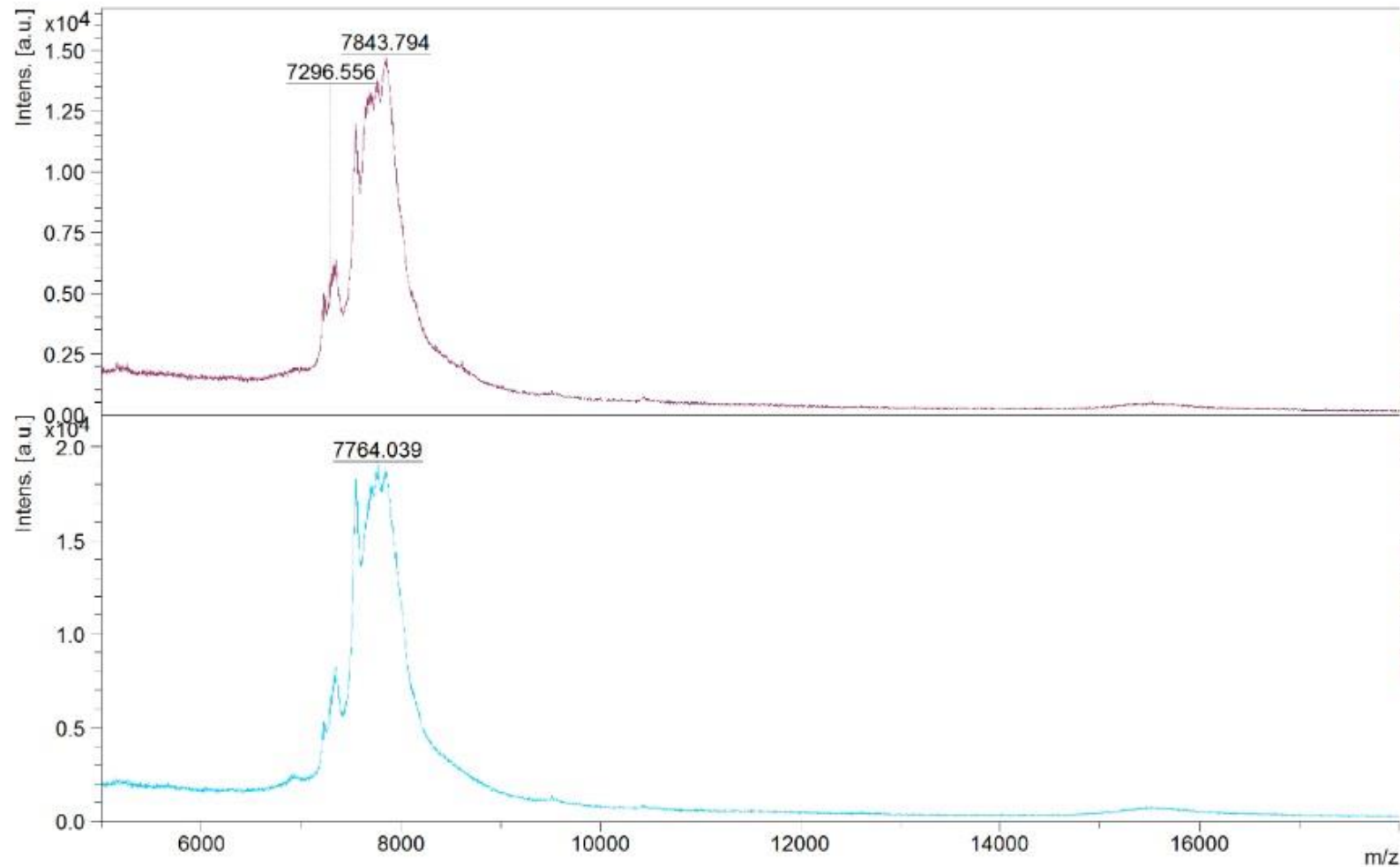
MSMS parent mass

## Instrument

Instrument type microflex  
Serial instrument number 269944.00471  
Name of computer FLEX-PC  
Operator ID or name BDAL@US  
flexControl version flexControl 3.4.105.0  
flexAnalysis version

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Acquisition method D:\Methods\flexControl\Methods\MBT\_FC.par  
Processing method  
File Name D:\Data\MaldiBiotype\RealTimeClassification\17.01.18 PARAZIT\B9\0\_B9\1

# Белковый профиль D.immitis



## Target

Position D7

## Laser

Laser beam attenuation 69.815  
Laser repetition rate 60 Hz  
Number of shots 240

## Spectrometer

positive voltage polarity POS  
PIE delay 100 ns  
Ion source voltage 1 20 kV  
Ion source voltage 2 18.1 kV  
Lens voltage 6 kV  
Linear detector voltage 2.757 V  
Deflection on Deflection mass  
SampleRate 2 ns

Reflector voltage 1 0 kV  
Reflector detector voltage 0 kV

MSMS parent mass

## Instrument

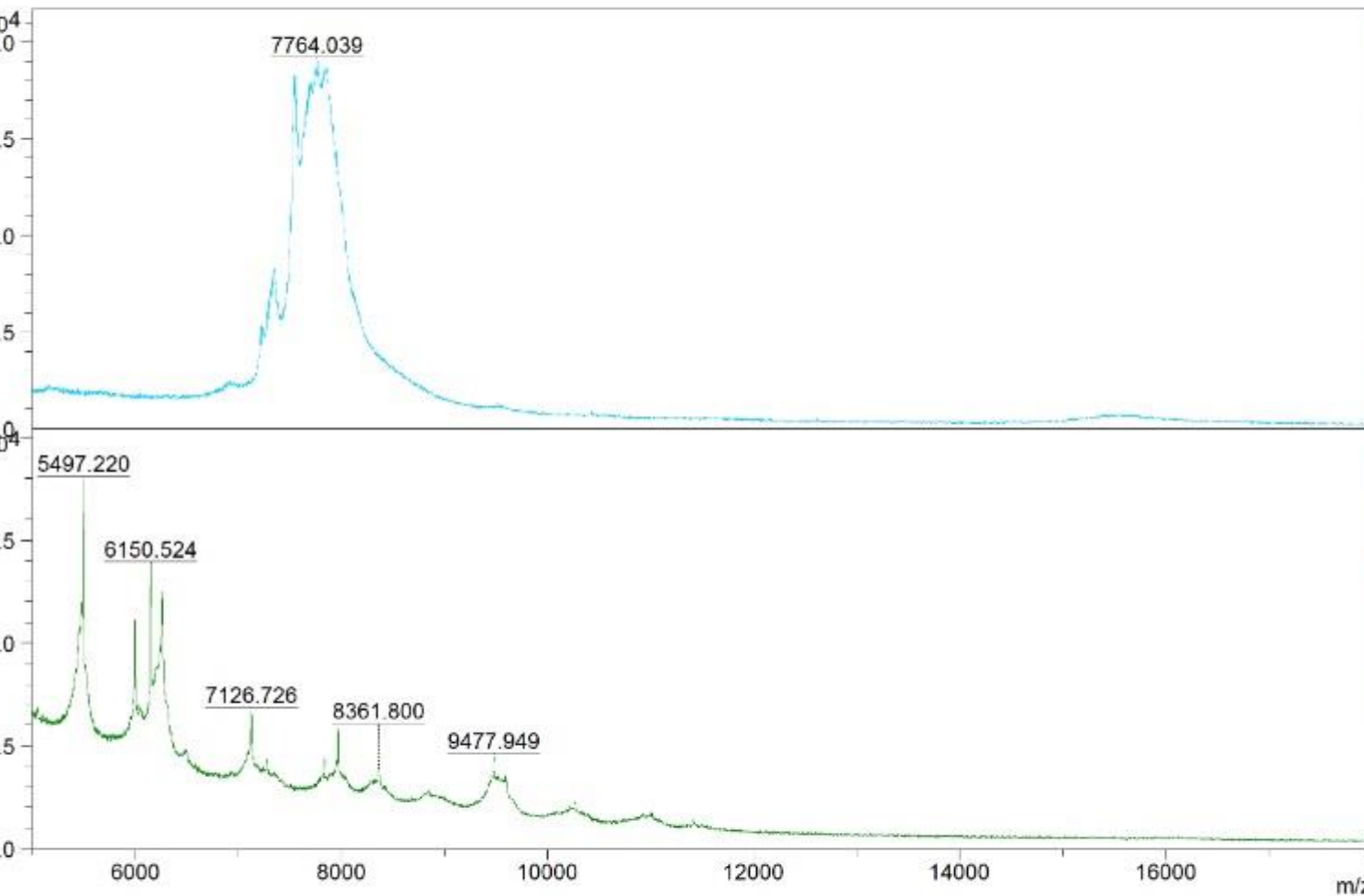
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Serial instrument number 26994  
Name of computer FLEX-  
Operator ID or name BDALG  
flexControl version flexCo  
flexAnalysis version

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Processing method  
File Name D:\Data\WaldiBiotyper\RealTimeClassification\30.01.18 hoz2\3 3\0\_D7\1

printed: 2/21/2018



# Белковый профиль *D.immitis* (верхний график) Белковый профиль *D.gereps* (нижний график)



**Target**  
Position

**Laser**

Laser beam attenuation  
Laser repetition rate  
Number of shots

**Spectrometer**

positive voltage polarity  
PIE delay  
Ion source voltage 1  
Ion source voltage 2  
Lens voltage  
Linear detector voltage  
Deflection on  
Deflection mass  
SampleRate

Reflector voltage 1  
Reflector detector voltage

MSMS parent mass

**Instrument**

Instrument type  
Serial instrument number  
Name of computer  
Operator ID or name  
flexControl version  
flexAnalysis version

of Acquisition  
sition method  
essing method  
lame

# Ascaris lumbricoides



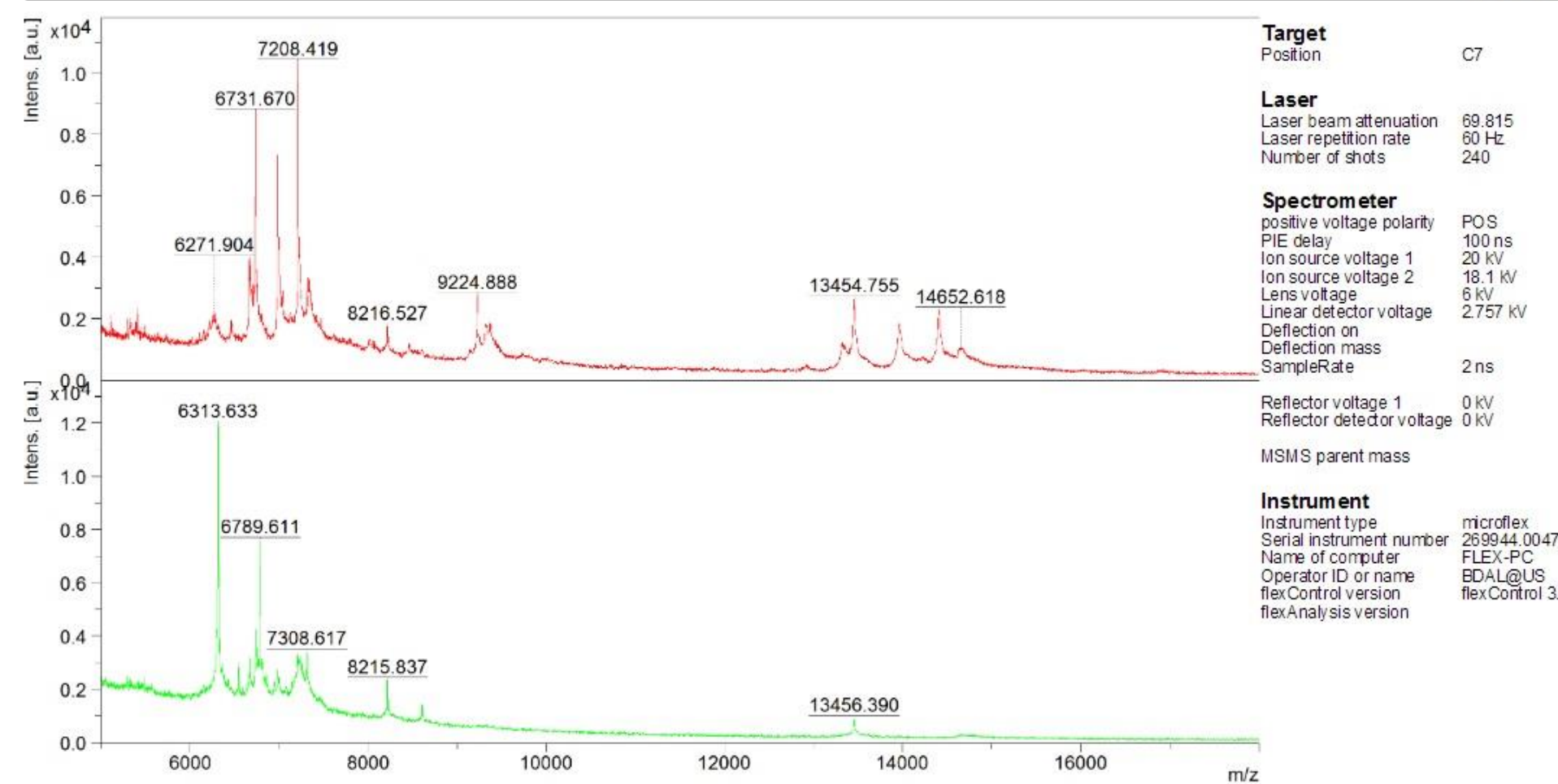
# Ascaris suum



1. Chang-Chun Shao, Min-Jun Xu, Samer Alasaad, et al. BMC Vet Res. 2014; 10: 99. Published online 2014 Apr 27. doi: 10.1186/1746-6148-10-99.
2. Daniela Leles, Scott L Gardner, Karl Reinhard, et al. Parasit Vectors. 2012 Feb 20;5:42. doi: 10.1186/1756-3305-5-42.
3. Betson M, Stothard JR. J Infect Dis. 2016 Apr 15;213(8):1355-6. doi: 10.1093/infdis/jiw037. Epub 2016 Feb 4.

# Белковый профиль A.suum (верхний график)

# Белковый профиль A.lumbricoides (нижний график)



**Target**  
Position C7

**Laser**  
Laser beam attenuation 69.815  
Laser repetition rate 60 Hz  
Number of shots 240

**Spectrometer**  
positive voltage polarity POS  
PIE delay 100 ns  
Ion source voltage 1 20 kV  
Ion source voltage 2 18.1 kV  
Lens voltage 6 kV  
Linear detector voltage 2.757 kV  
Deflection on Deflection mass  
SampleRate 2 ns

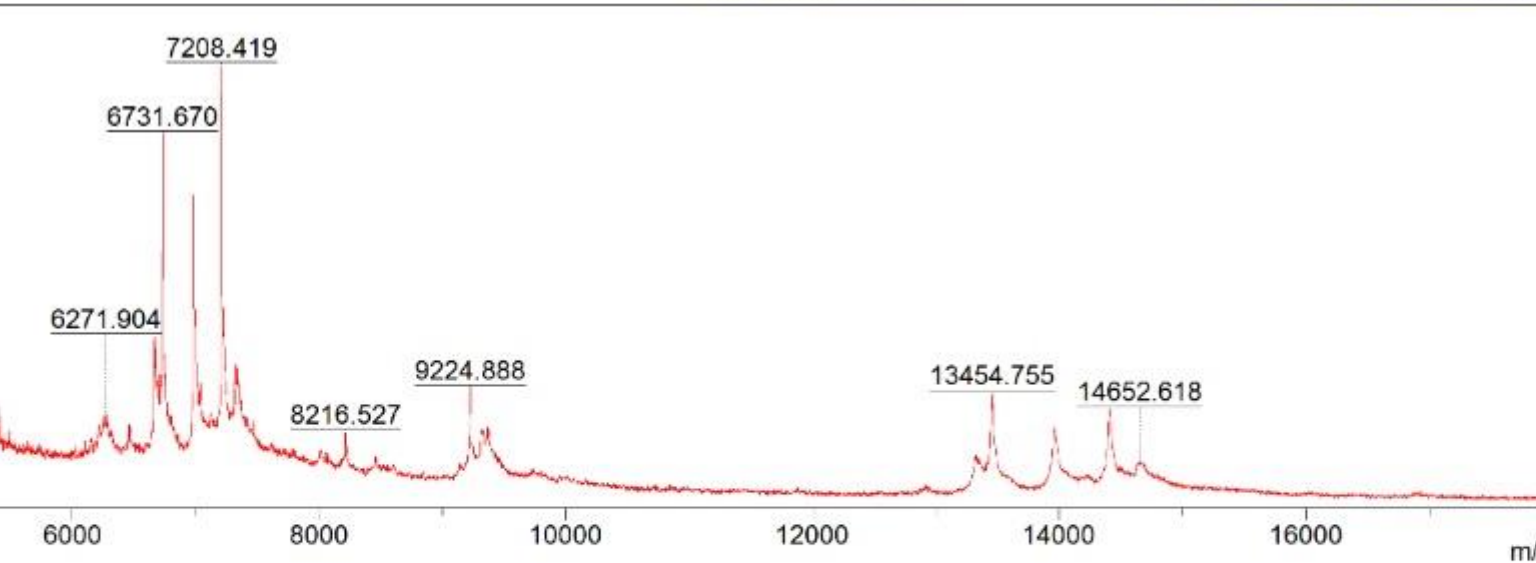
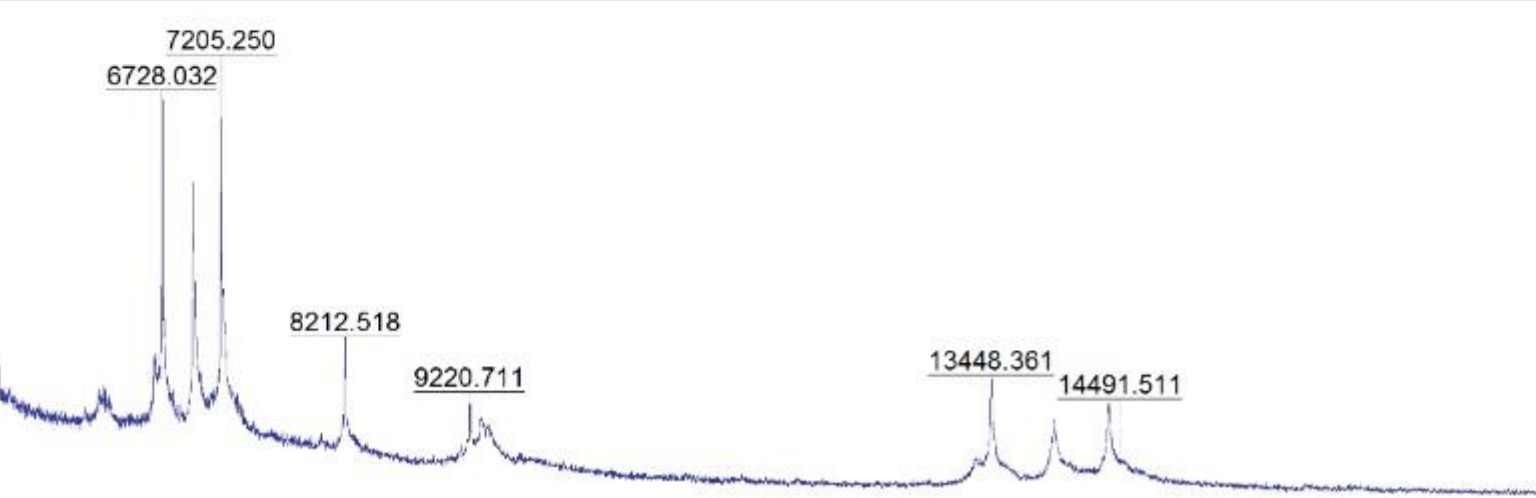
Reflector voltage 1 0 kV  
Reflector detector voltage 0 kV

MSMS parent mass

**Instrument**  
Instrument type microflex  
Serial instrument number 269944.0047  
Name of computer FLEX-PC  
Operator ID or name BDAL@US  
flexControl version flexControl 3.  
flexAnalysis version



# Белковый профиль A.lumbricoides



**Target**  
Position B6

**Laser**  
Laser beam attenuation 69.815  
Laser repetition rate 60 Hz  
Number of shots 240

**Spectrometer**  
positive voltage polarity POS  
PIE delay 100 ns  
Ion source voltage 1 20 kV  
Ion source voltage 2 18.1 kV  
Lens voltage 6 kV  
Linear detector voltage 2.757 kV  
Deflection on  
Deflection mass  
SampleRate 2 ns

Reflector voltage 1 0 kV  
Reflector detector voltage 0 kV

MSMS parent mass

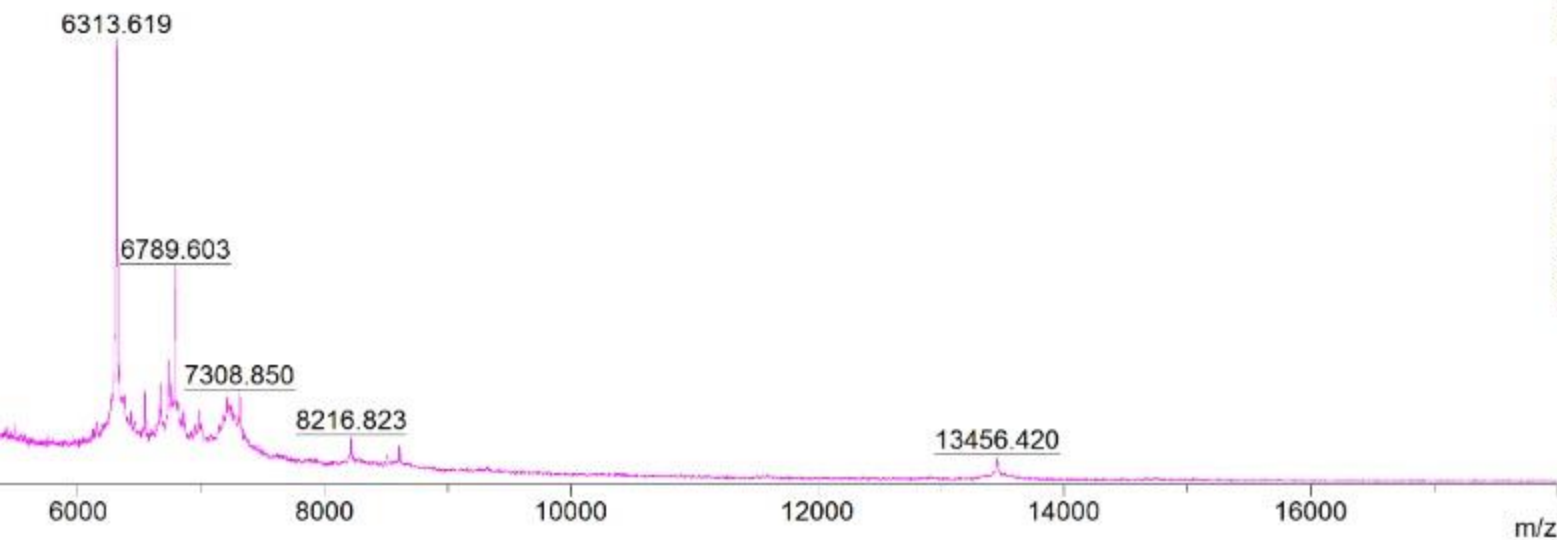
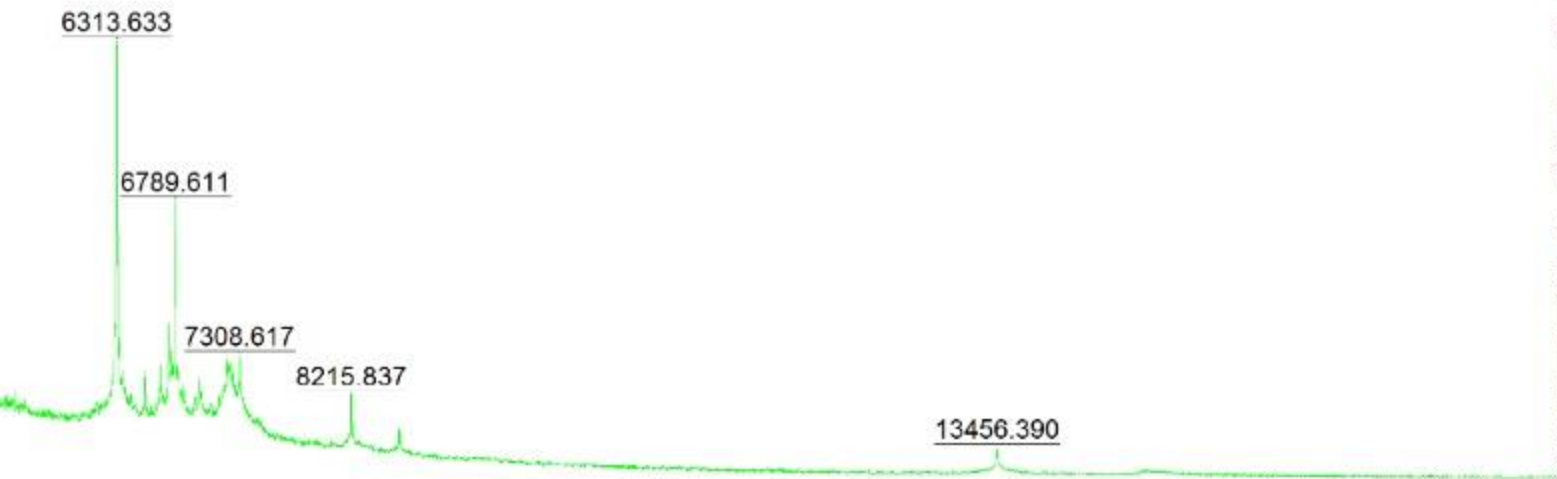
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Serial instrument number 269944  
Name of computer FLEX-PC  
Operator ID or name BDAL@  
flexControl version flexCont  
flexAnalysis version

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D:\Data\MaldiBiotypeRealTimeClassification\20.02.18 HOZ+PARAZIT\2 hel 2\0\_B6\1

printed: 2/21/2018

# Белковый профиль A.suum

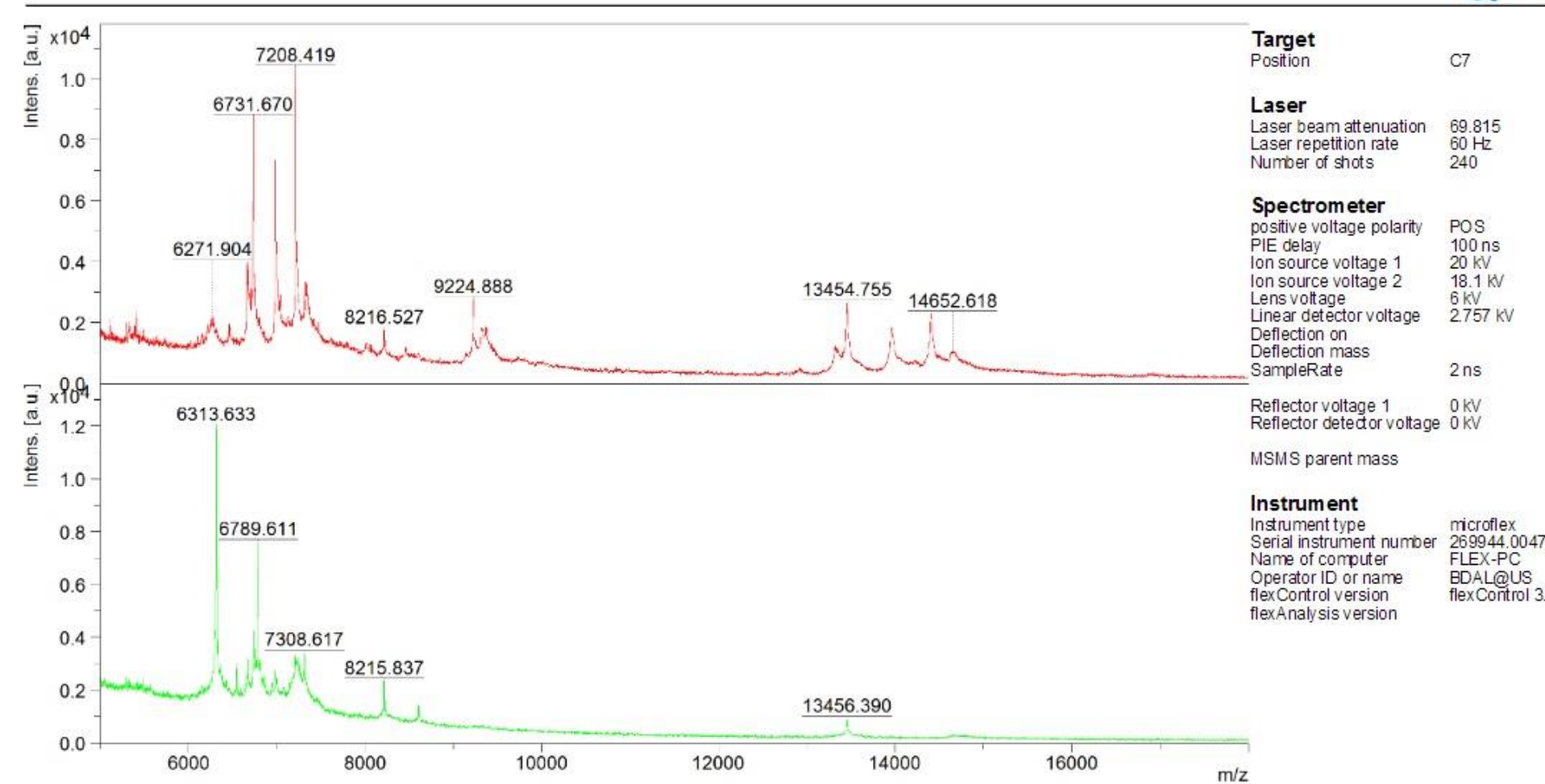


<b>Target</b>	
Position	C8
<b>Laser</b>	
Laser beam attenuation	69.815
Laser repetition rate	60 Hz
Number of shots	160
<b>Spectrometer</b>	
positive voltage polarity	POS
PIE delay	100 ns
Ion source voltage 1	20 kV
Ion source voltage 2	18.1 kV
Lens voltage	6 kV
Linear detector voltage	2.757 kV
Deflection on	
Deflection mass	
SampleRate	2 ns
Reflector voltage 1	0 kV
Reflector detector voltage	0 kV
MSMS parent mass	
<b>Instrument</b>	
Instrument type	microfle
Serial instrument number	269944
Name of computer	FLEX-P
Operator ID or name	BDAL@
flexControl version	flexCont
flexAnalysis version	

Position 2018-02-20T15:05:39.475+00:00  
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Method D:\Data\MaldiBiotypeRealTimeClassification\20.02.18 HOZ+PARAZIT\4 cvin\0\_C8\1

# Белковый профиль A.suum (верхний график)

## Белковый профиль A.lumbricoïdes (нижний график)



**Target**  
Position C7

**Laser**  
Laser beam attenuation 69.815  
Laser repetition rate 60 Hz  
Number of shots 240

**Spectrometer**  
positive voltage polarity POS  
PIE delay 100 ns  
Ion source voltage 1 20 kV  
Ion source voltage 2 18.1 kV  
Lens voltage 6 kV  
Linear detector voltage 2.757 kV  
Deflection on Deflection mass  
SampleRate 2 ns

Reflector voltage 1 0 kV  
Reflector detector voltage 0 kV

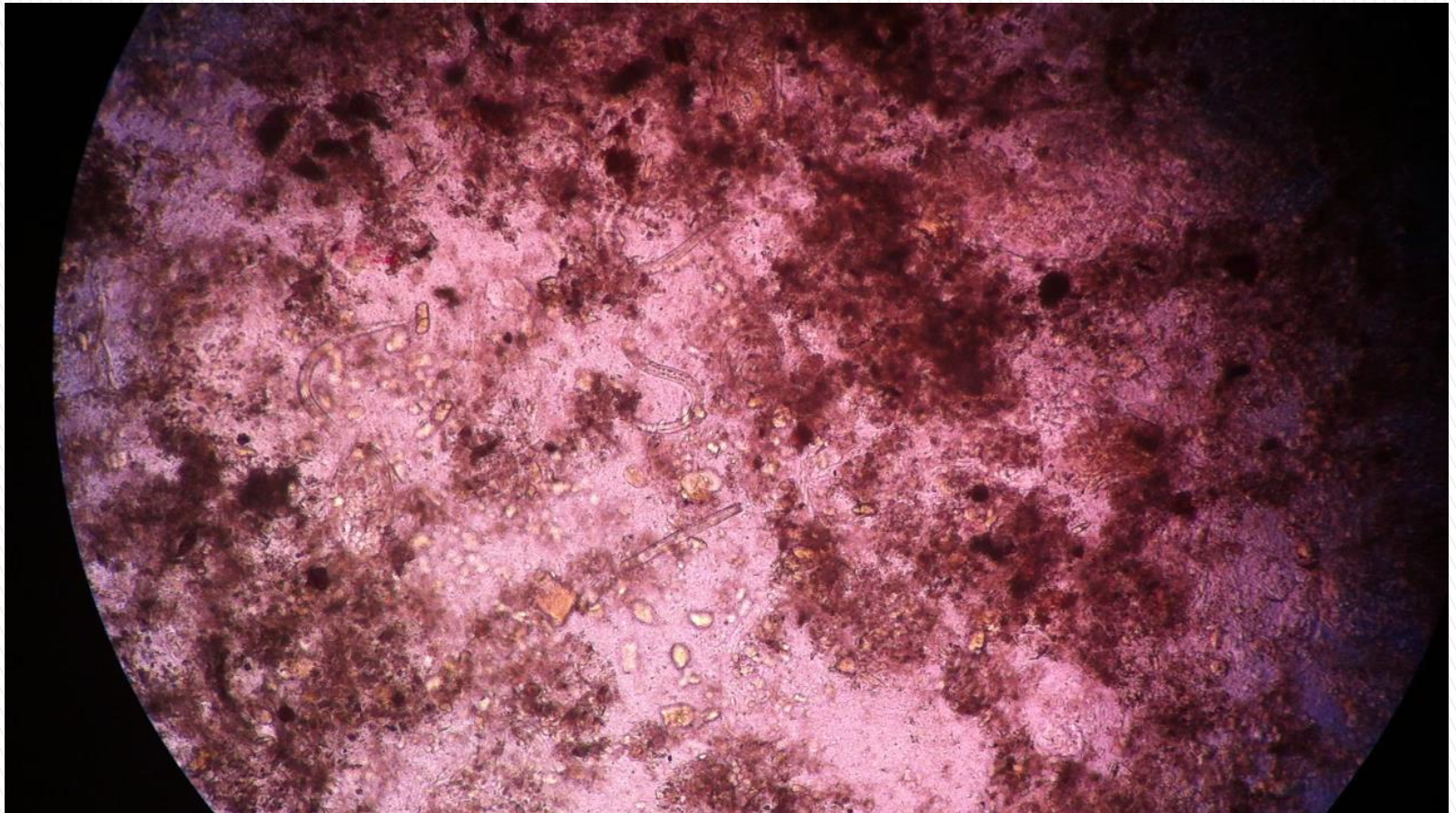
MSMS parent mass

**Instrument**  
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Serial instrument number 269944.0047  
Name of computer FLEX-PC  
Operator ID or name BDAL@US  
flexControl version flexControl 3.  
flexAnalysis version

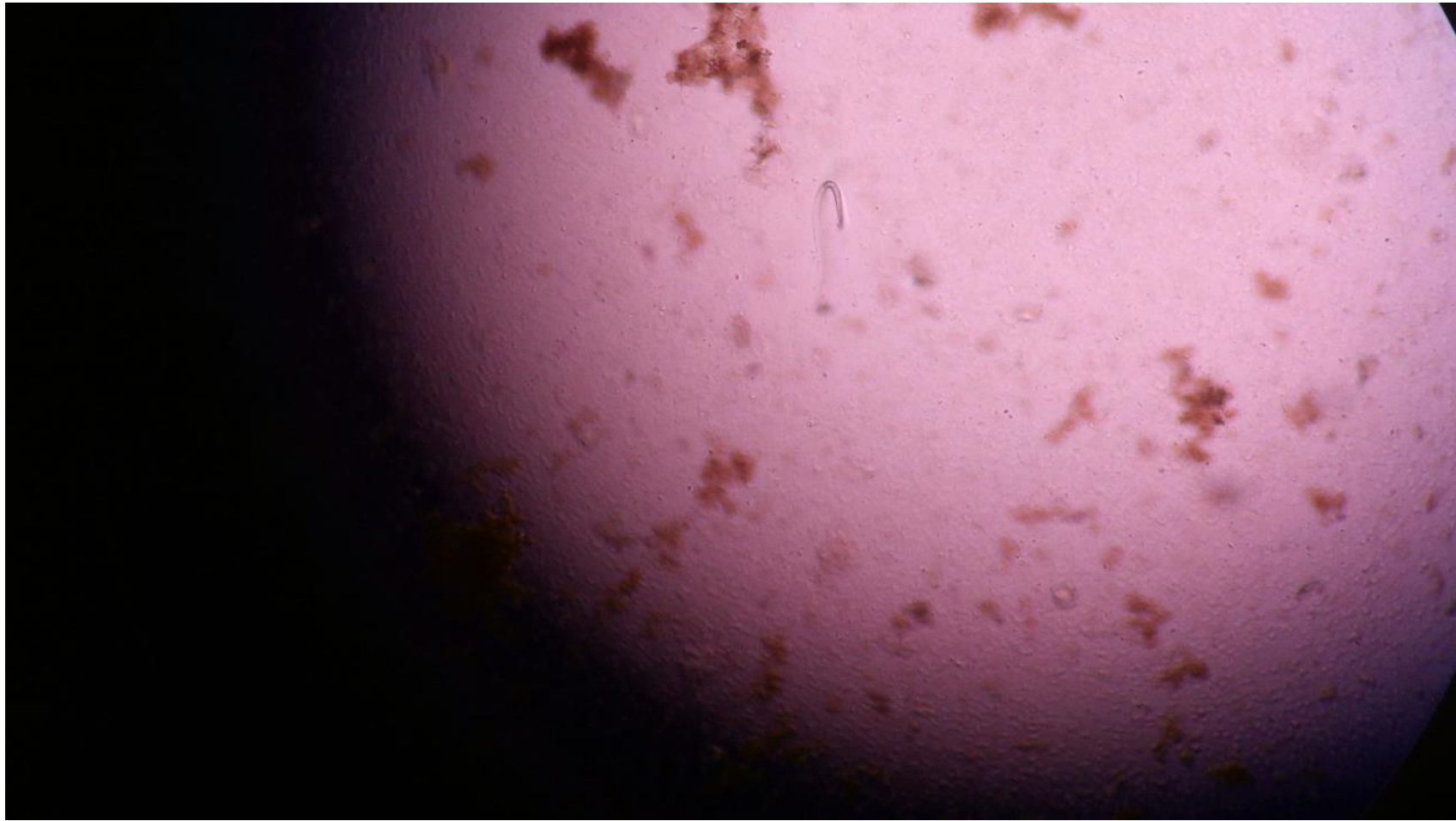
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# Диагностика стронгилоидоза методом Бермана и его модификаций



# Личинка стронгилид животных в кале ребенка 3 лет, метод Бермана



**Благодарим за  
внимание**

