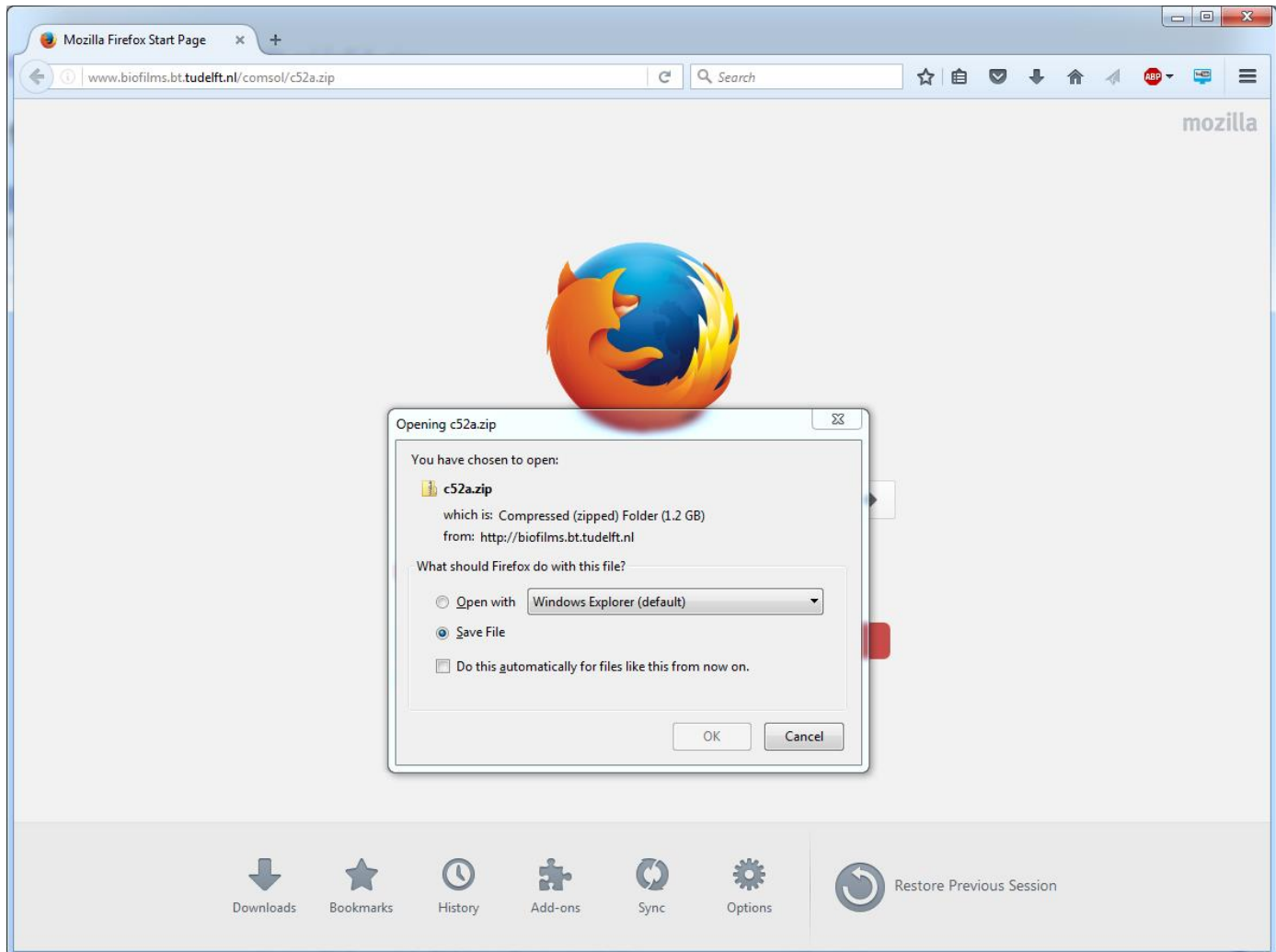


1. Download COMSOL from:

<http://www.biofilms.bt.tudelft.nl/comsol/c52a.zip>

Save this file on your computer.



The file is a zip archive of size about 1300 Mb. This COMSOL installation is light version of the software, with only the basic features, but including everything you need for this course. After you download the archive file **c52a.zip**, please double-click on it to unzip all content in a folder. The zip file can also be opened and extracted with **7-Zip**. It was checked virus-free, thus please accept all security warnings your system may produce and go ahead with the installation.

To startup the installation follow the next steps in Windows.

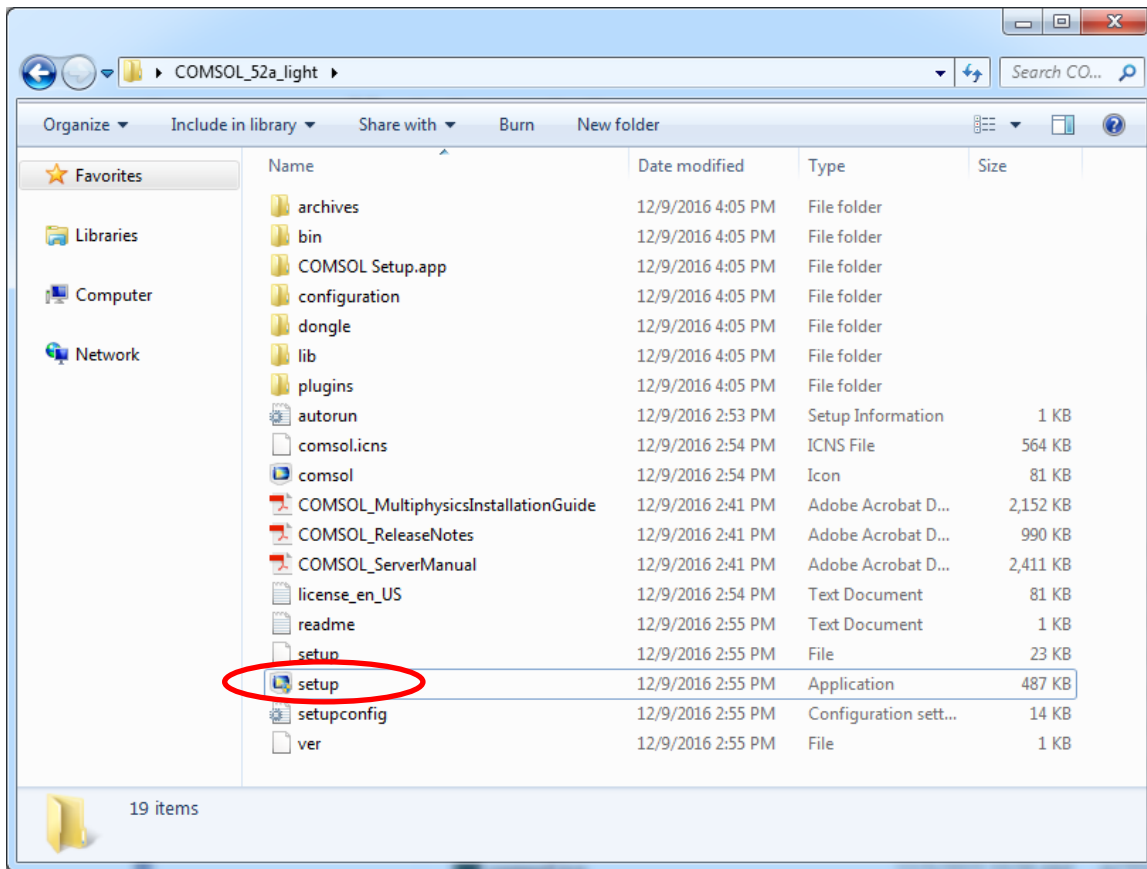
Mac users can refer to the file:

http://www.biofilms.bt.tudelft.nl/comsol/COMSOL_MultiphysicsInstallationGuide.pdf

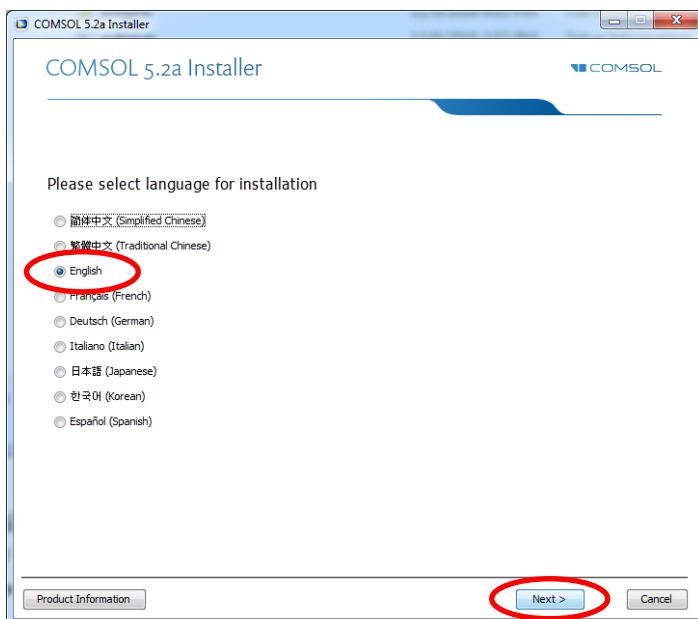
to launch the installer. Then, the steps are very similar with those explained here for Windows users.

2. Install COMSOL

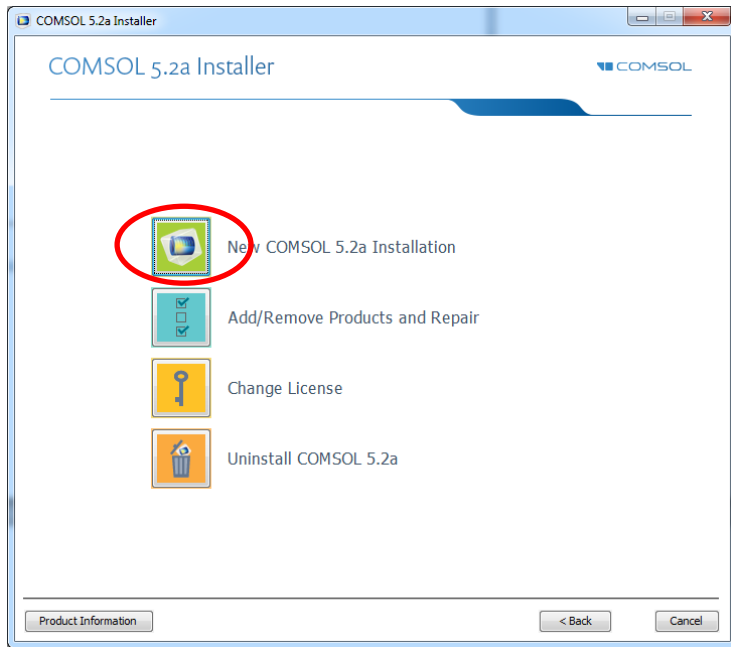
After you downloaded the **c52a.zip**, you can enter it and you will find the directory **COMSOL_52a_light** which contains the following structure:



The Windows users will have to double-click on the **setup.exe** file to start the COMSOL installer. Allow installation on your computer. Then you get this window and of course you click **Next>**

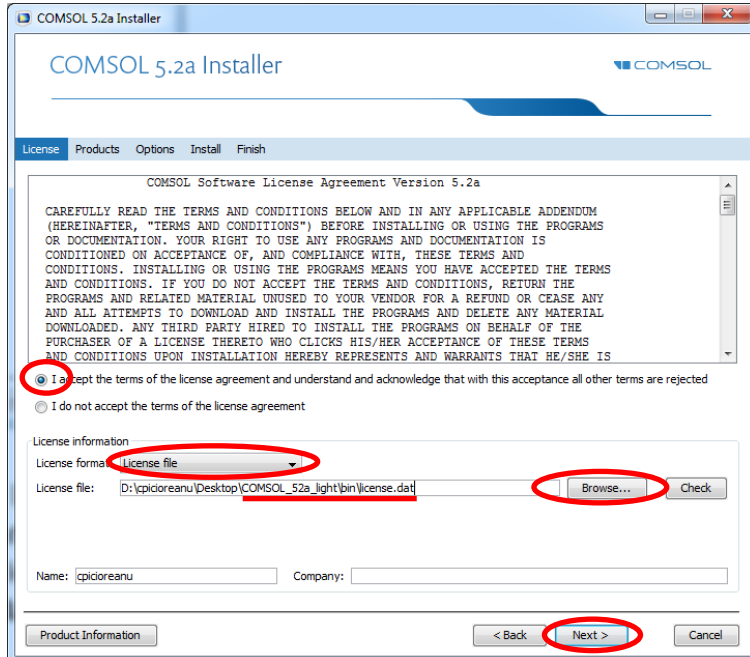


Click on the **New COMSOL 5.2a Installation**:



Accept the license terms, then choose the license format **License file**.

Browse for the time-limited license file that we got from COMSOL, which is in the **bin** directory of your unzipped installation package: **\COMSOL_52a_light\bin\license.dat**. After you selected the license.dat file, you can proceed with the next step of the installation:



In the next page, it is important that you:

A. select only three products to install:

- 1. the basic COMSOL Multiphysics module**
- 2. the Chemical Reaction Engineering Module**
- 3. the License Manager**

- Uncheck all the other modules (with patience...)

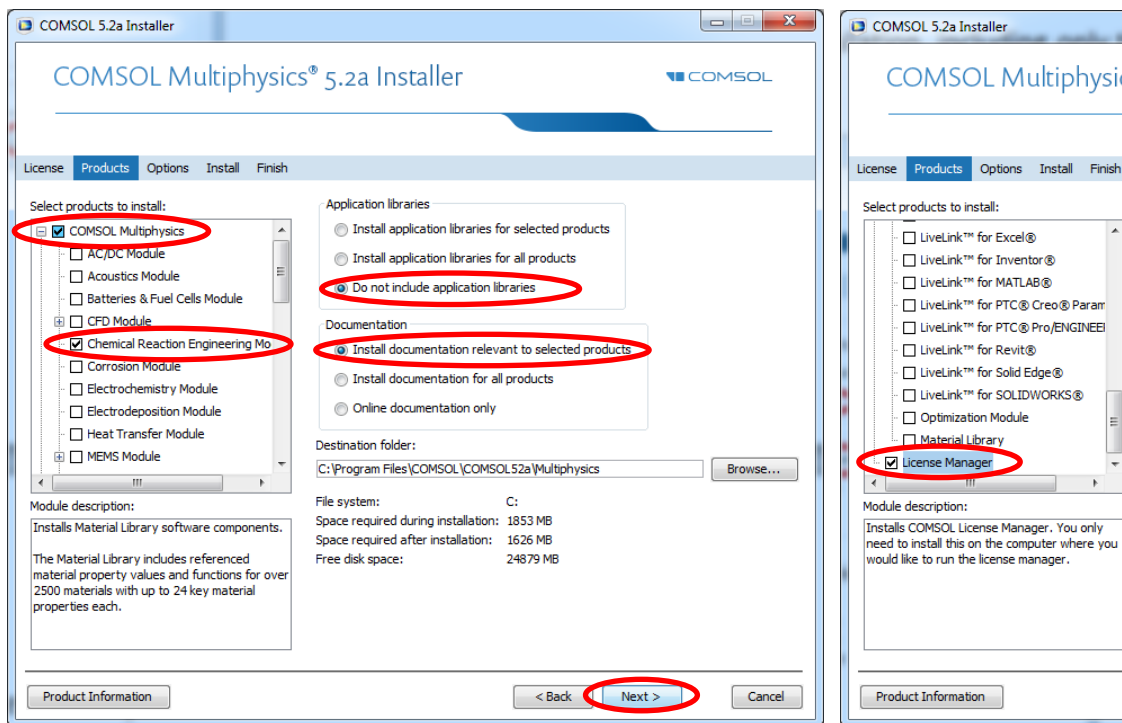
B. in Application Libraries:

- **Do not include application libraries**

C. in Documentation:

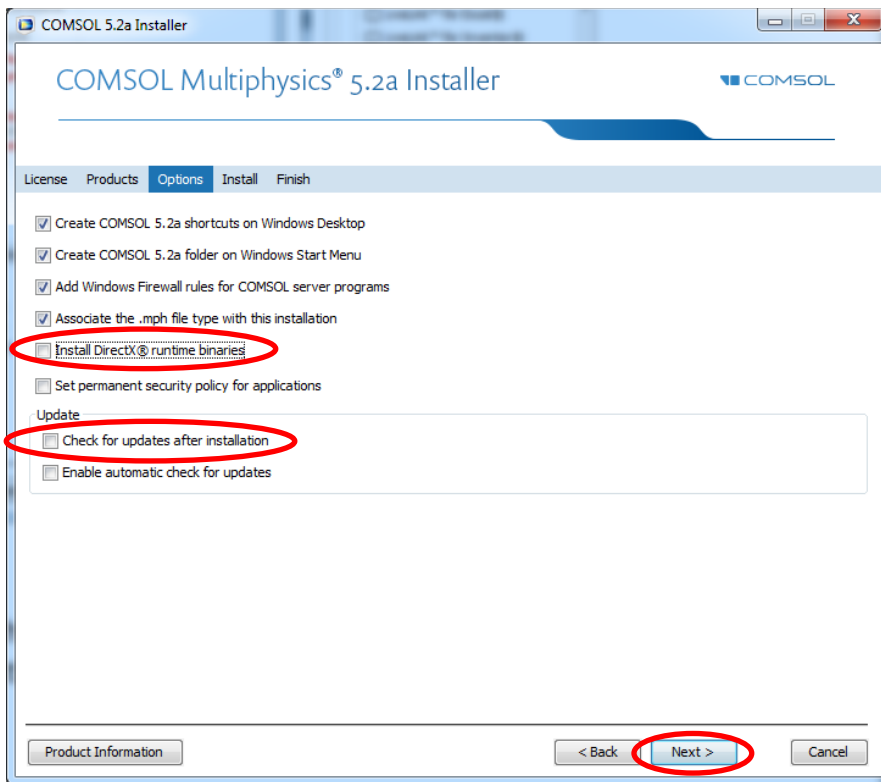
- **Install documentation relevant to selected products**

These are all chosen to have a lighter installation, including only the strictly needed features. See the example below. After selecting/deselecting items, click **Next**.

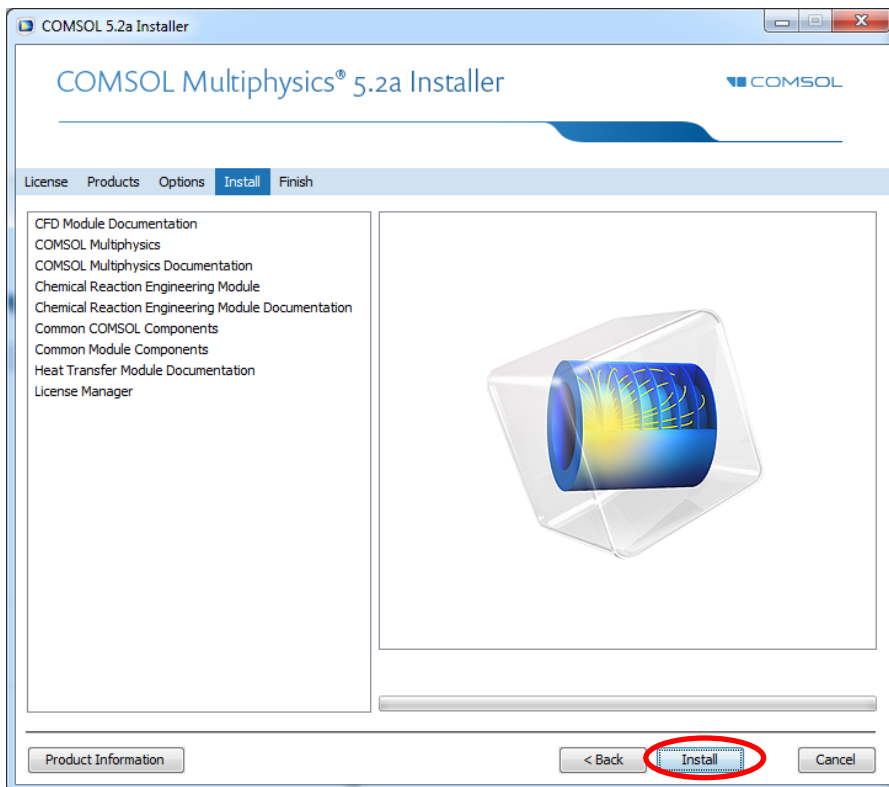


In the next page with options:

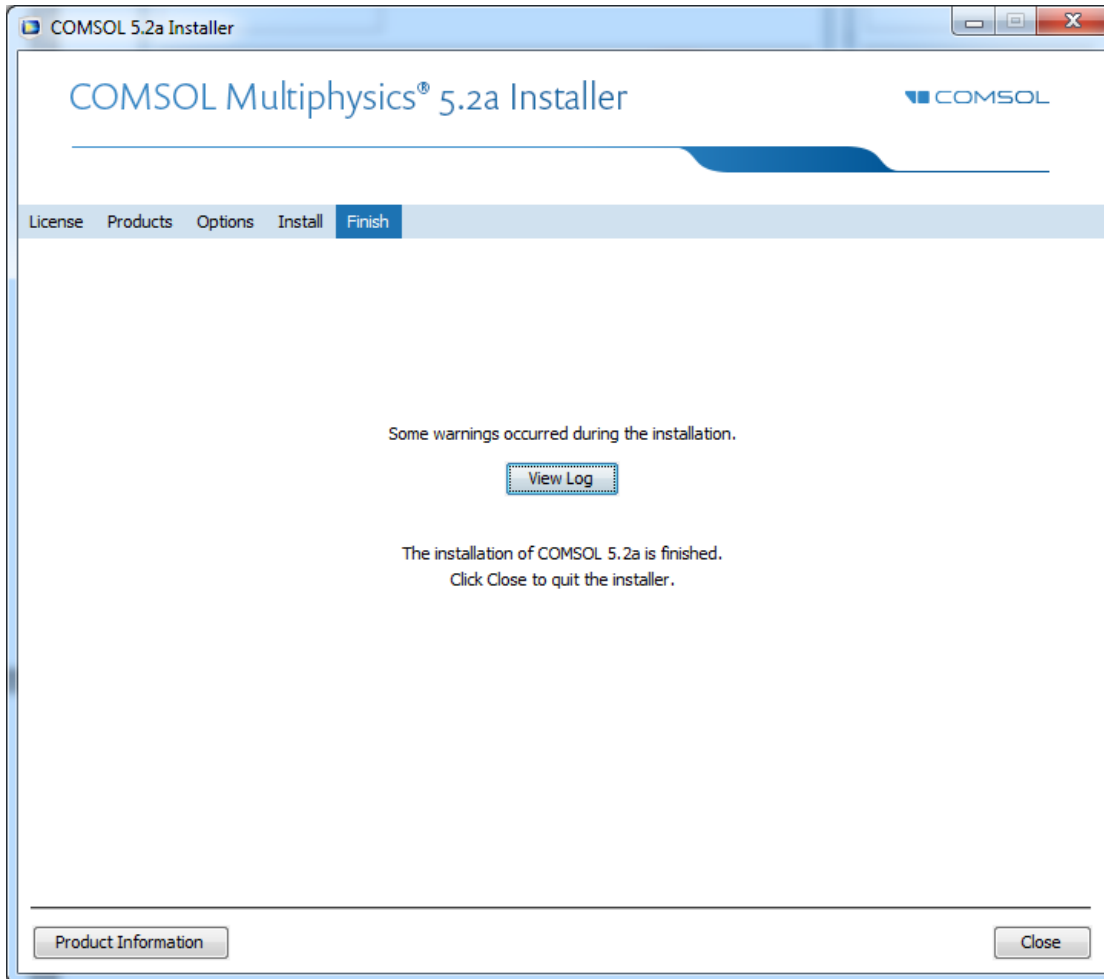
- Do not install DirectX binaries (uncheck this option)
- Do not check for updates, do not enable the automatic check for updates.



Click here **Install:**



After a few minutes the installation is complete. You should get this message window (do not worry about the warnings). **Close.**



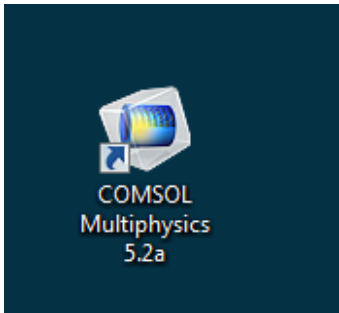
4. Test COMSOL

- download files **comsol_test_1d.mph** and **comsol_test_2d.mph** from:

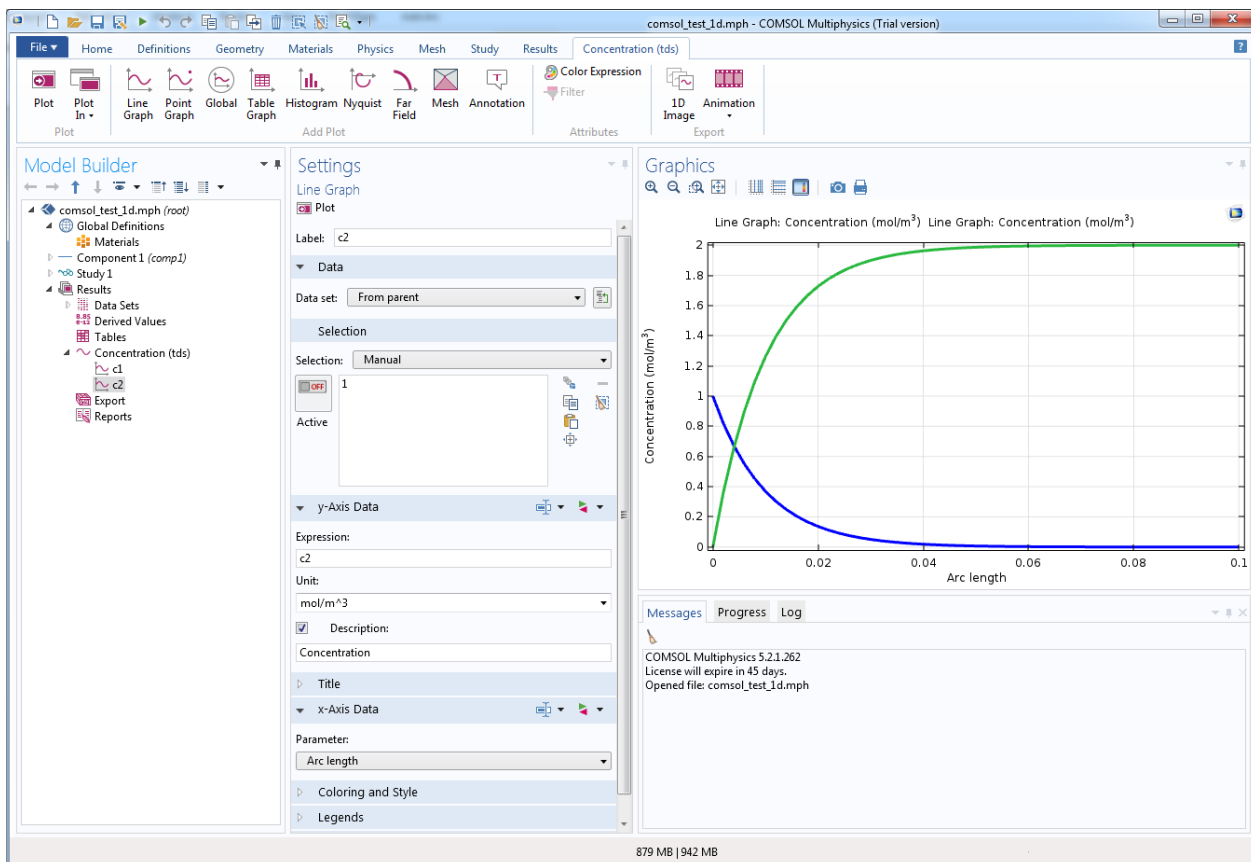
http://www.biofilms.bt.tudelft.nl/comsol/comsol_test_1d.mph

http://www.biofilms.bt.tudelft.nl/comsol/comsol_test_2d.mph

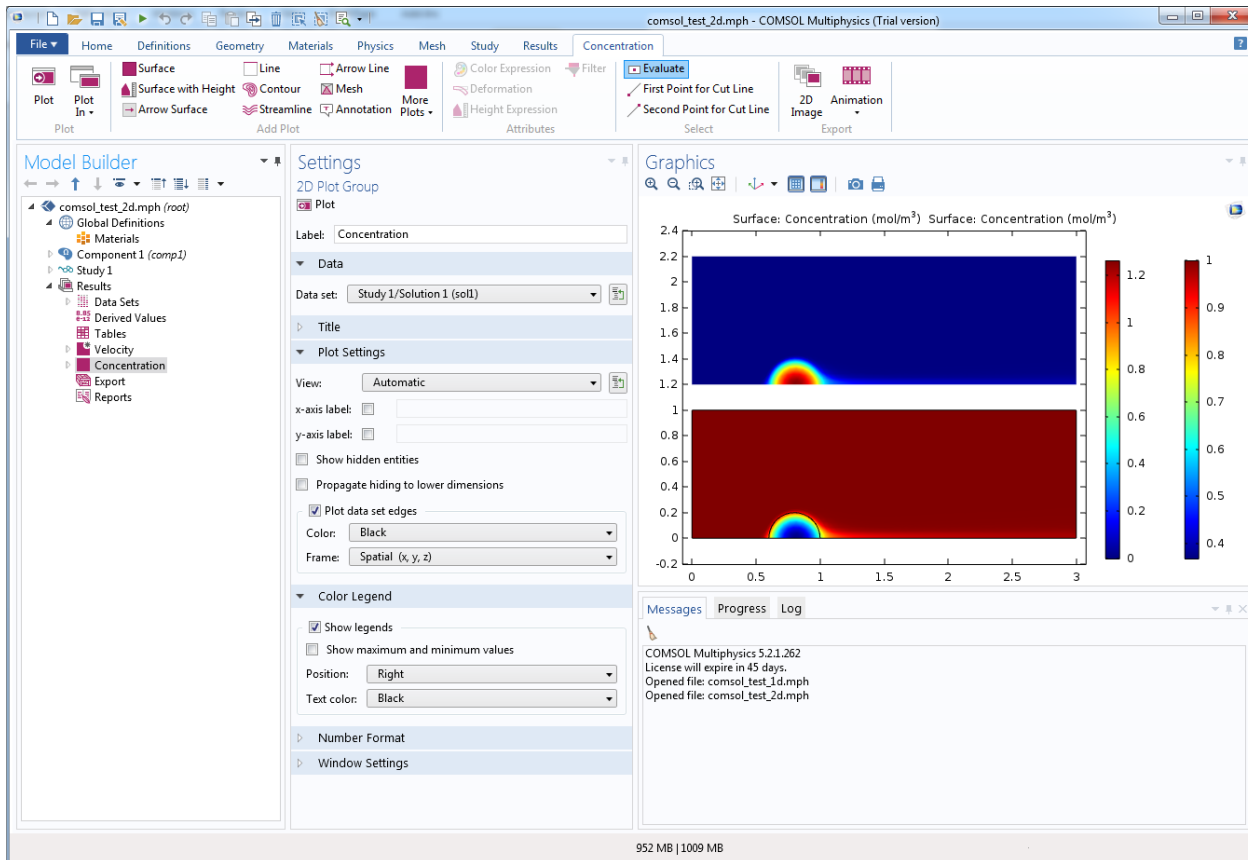
- open COMSOL 5.2a from the icon created on your desktop (for example)



- From File-> Open you can open the first file (the 1-D model) and you will see this (if not, try to click on the Results->Concentration from the Model Builder menu):



- If you open the second file (the 2-D model) and you should see this in the Results->Concentration:



... and this in the Results->Velocity.

