National Cancer Institute

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

caNanoLab
Hands-On Session

November 19, 2015

caNanoLab Hands-On Session Goals

- To provide hands-on training on how to submit a small subset of your data into caNanoLab so that you are able to submit the complete data set after the session
- To obtain feedback on caNanoLab to improve the data curation experience

caNanoLab Curation "Tips"

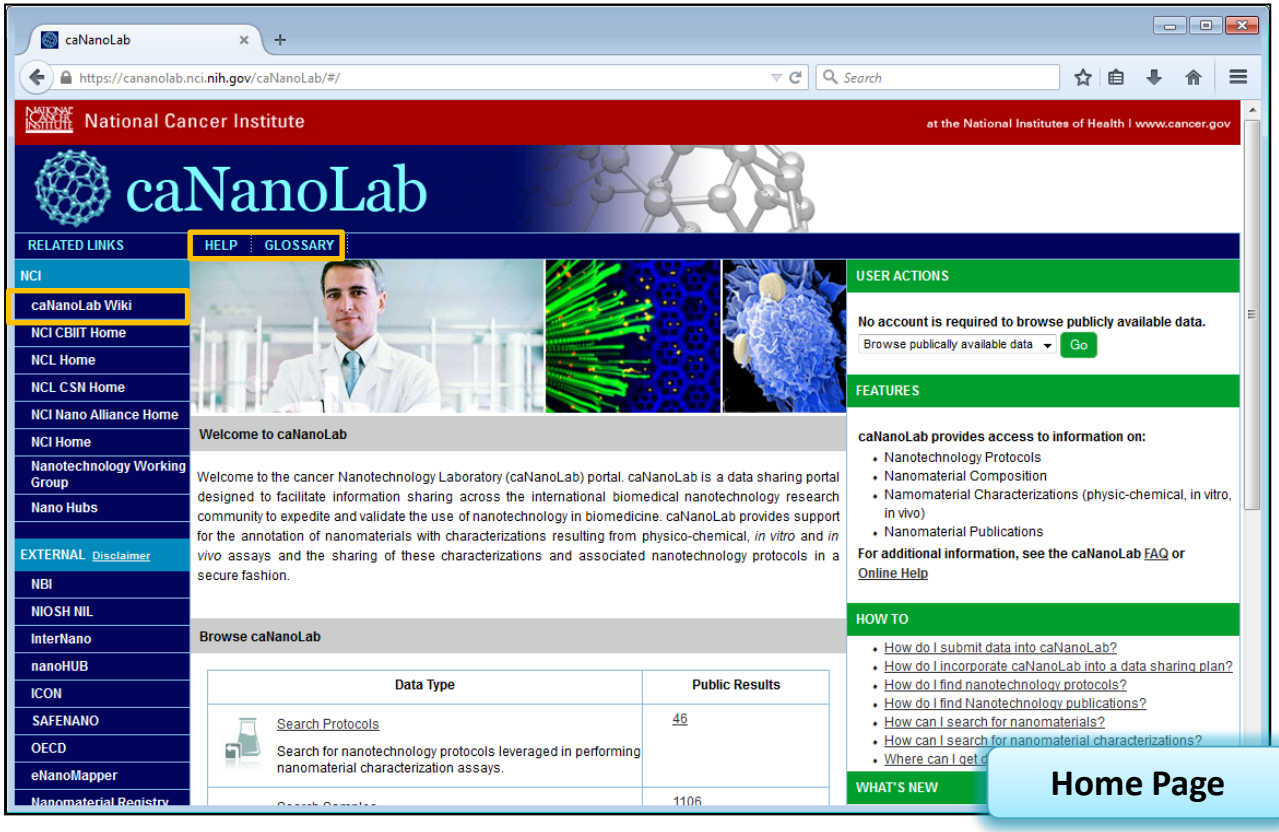
- Review your publication and perform basic data extraction to guide data submission activities—includes identifying samples and characterizations
- Identify the number of samples that have different composition or properties and determine the sample name
  - caNanoLab encourages the use of the following convention for sample names of data derived from publications:
    - *Abbreviation(s) of institution names, name of the first author (without middle name), custom abbreviation of journal title, year of publication, and sample sequential number e.g. SNL_UNM-CAshleyACSNano2012-01.*
- Determine the number of and types of characterizations you plan to submit and associate the characterizations with samples
  - Example samples and characterization types with conditions and techniques:
    - *Plain mesoporous silica nanoparticle; TEM, SEM, DLS, nitrogen sorption, zeta potential*
    - *AEPTMS modified silica nanoparticle; zeta potential*
    - *AEPTMS modified silica nanoparticle loaded with Silencer Select negative control siRNA; cytotoxicity*
- Review the caNanoLab Glossary to assist in identifying characterization types. Identify any new terms that are not in the caNanoLab glossary and define for consistency within your organization
- Review the sample NCL-23 in caNanoLab as an example

Hands-On Session Activities

1. View caNanoLab Resources
2. Search caNanoLab
3. Login to caNanoLab
4. Submit Data Into caNanoLab
    1. Submit a Publication
    2. Submit a Protocol
    3. Submit a Sample
5. Perform an Advanced Search
6. View MyWorkspace and MyFavorites
7. Submit a Defect or New Feature Request

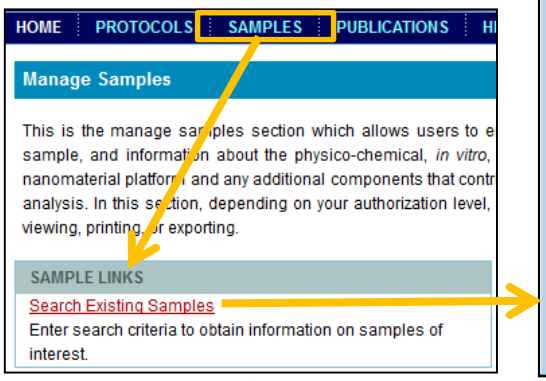
View caNanoLab Resources

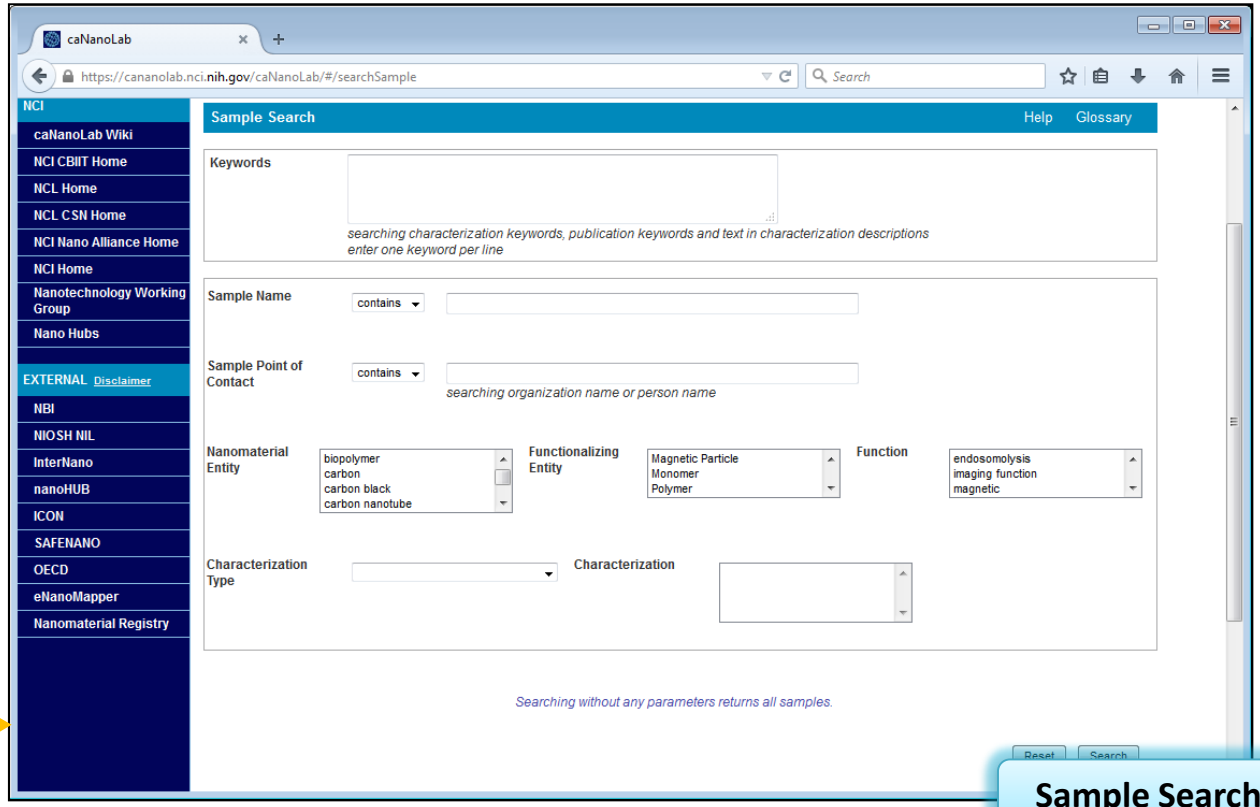
1. Navigate to caNanoLab: https://caNanoLab.nci.nih.gov
2. Select the *Help* menu item
3. Select the *Glossary* menu item
4. Select the related link to go to the caNanoLab Wiki



Search caNanoLab: Sample Search

1. Search for the NCL-23 sample
   - What is the size of NCL-23 at 25° C?

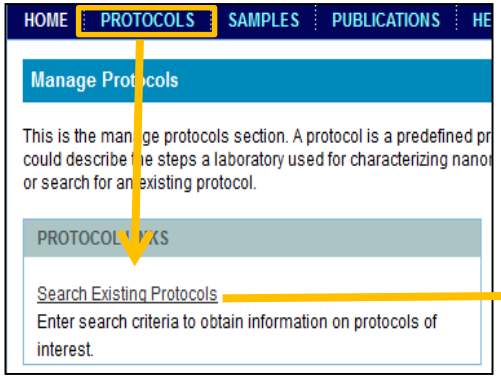


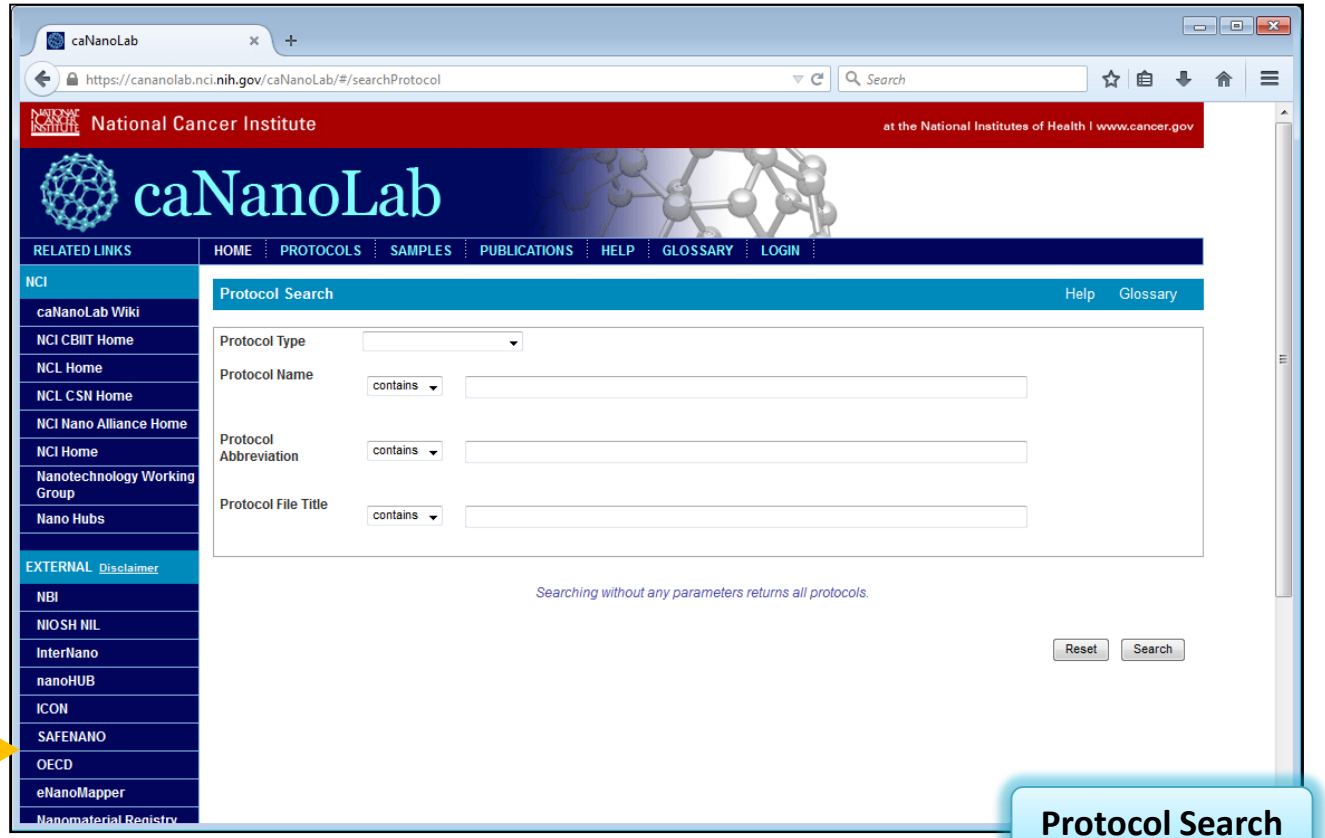


Sample Search

Search caNanoLab: Protocol Search

1. Search for the NCL NIST protocol on Dynamic Light Scattering
   - What is the abbreviation for this protocol?

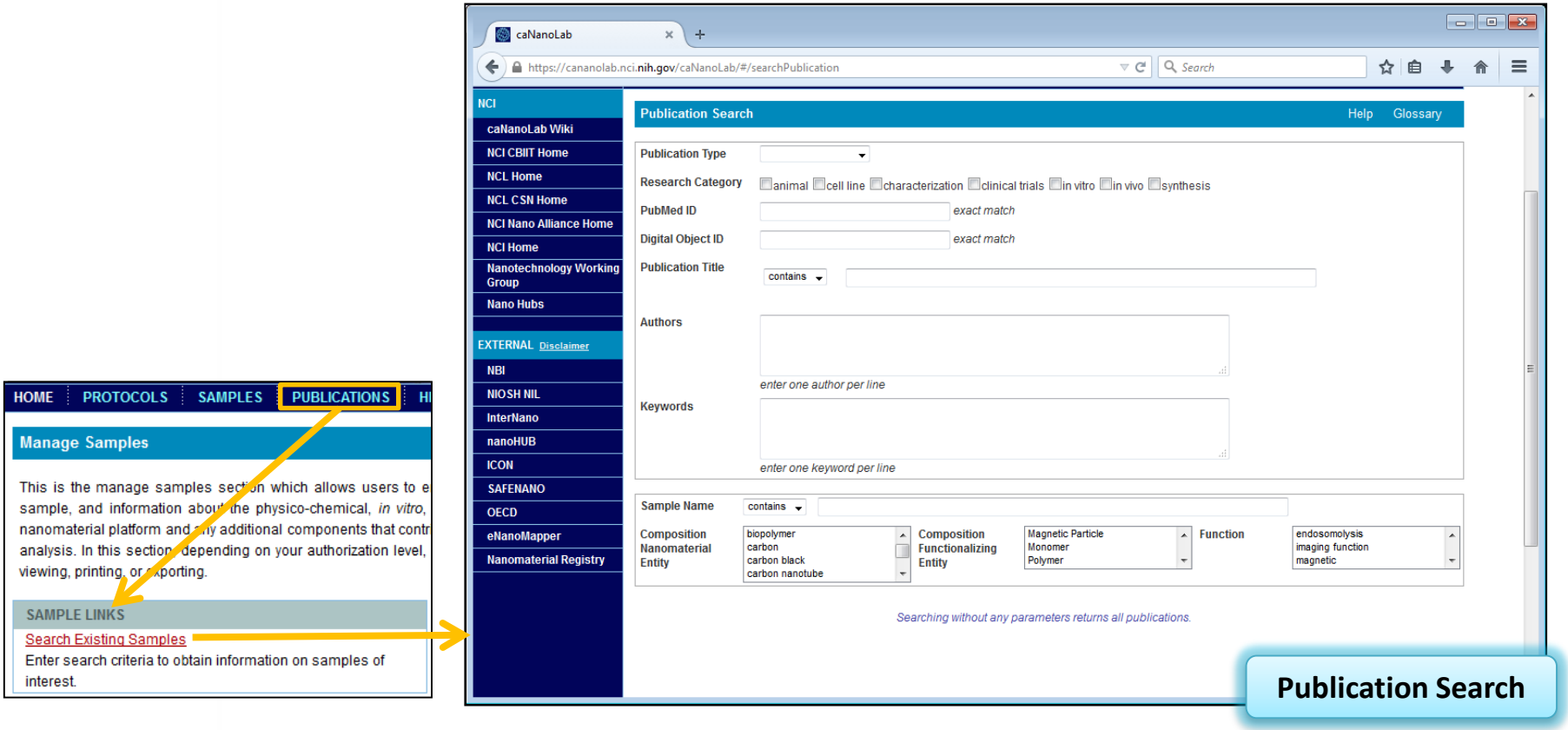




Protocol Search

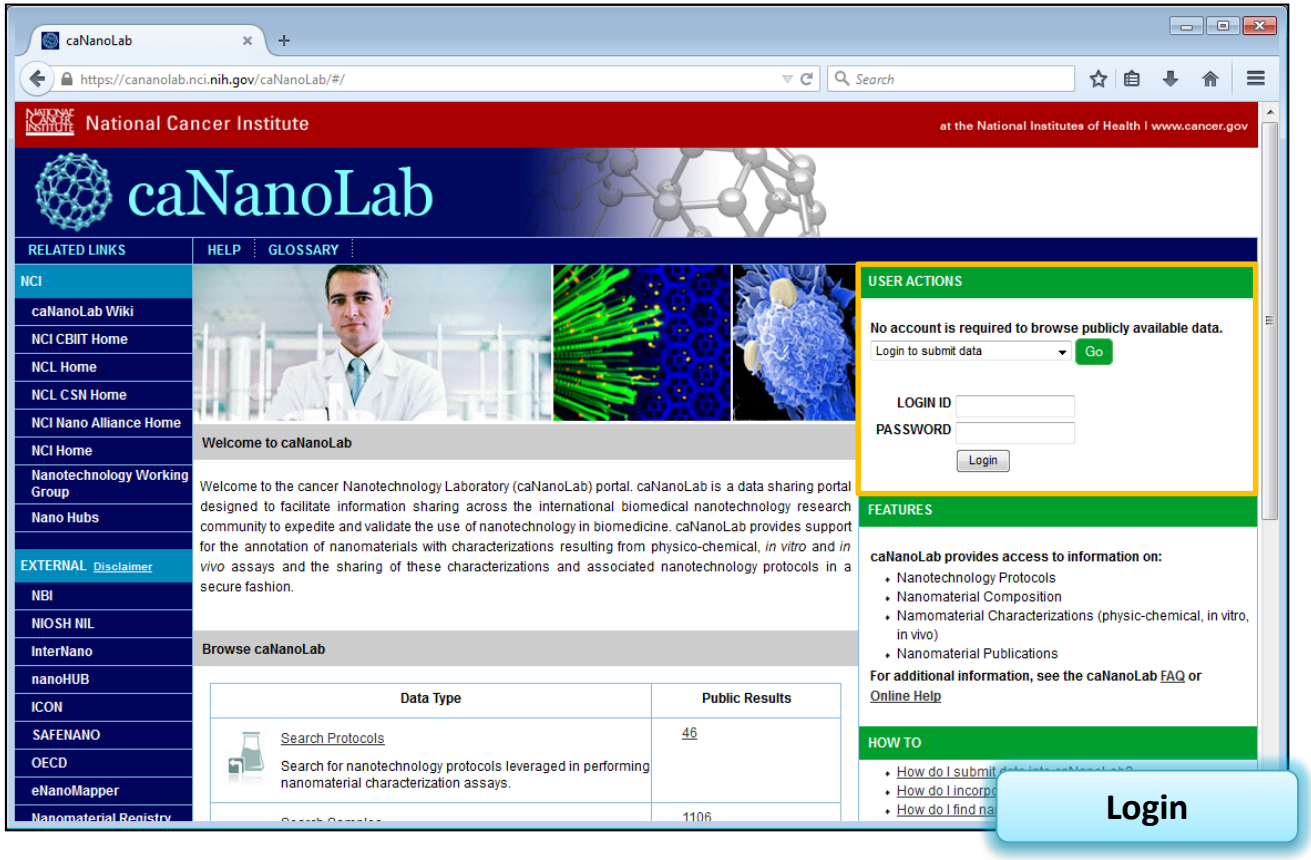
Search caNanoLab: Publication Search

1. Search for publications on dendrimers
   - How many publications are there?



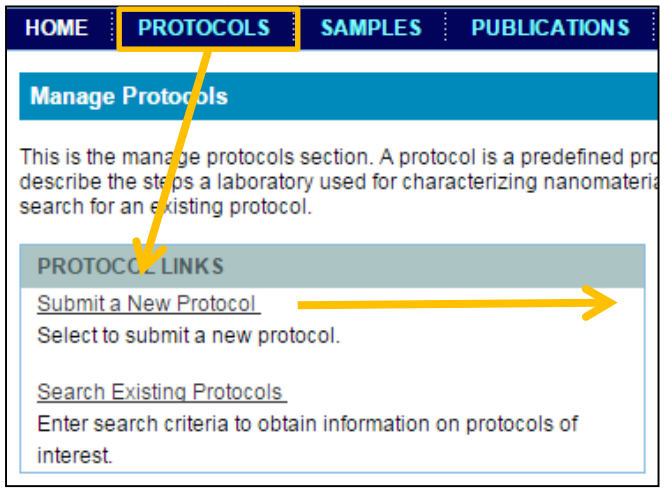
Login to caNanoLab

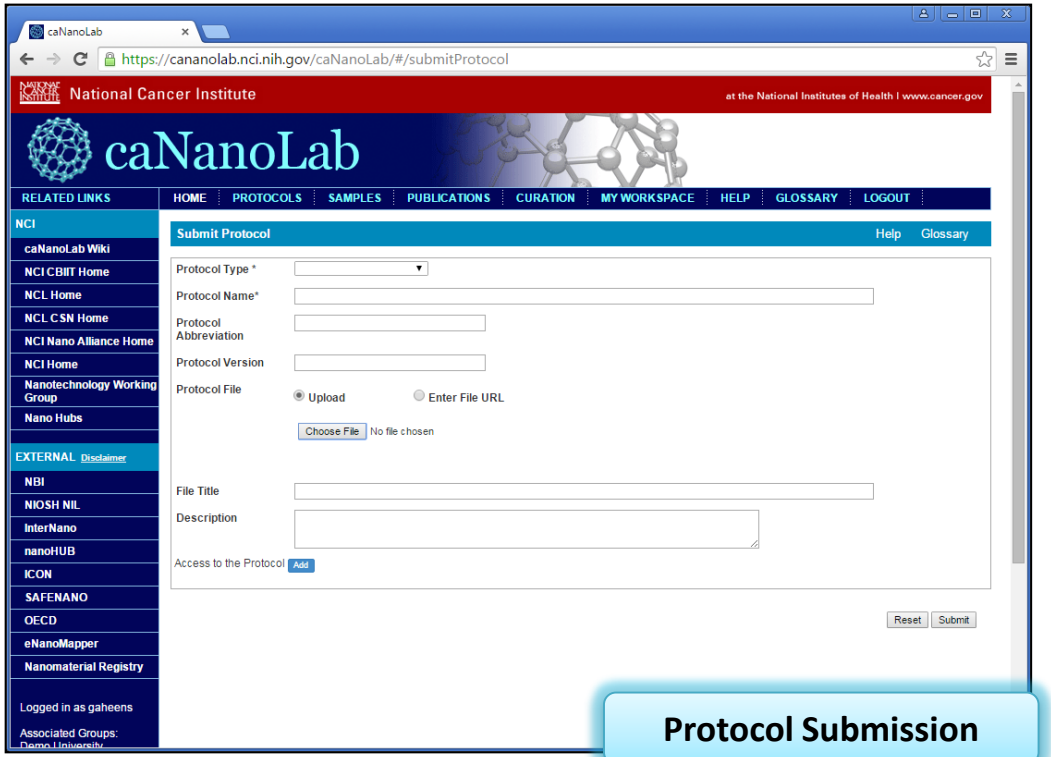
1. Navigate to the caNanoLab Home Page
2. Select *Login to submit data* under *USER ACTIONS*
3. Select *Go* Go
4. Login with your user credentials



Submit Data into caNanoLab: Protocol

1. Select to submit a protocol
2. Select the *Protocol Type*
3. Enter the *Protocol Name*
4. Upload the *Protocol File* or enter the *File URL*
5. Enter a *Description* of the protocol and submit
6. Search for the submitted protocol

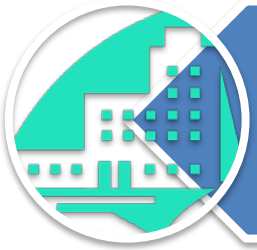




Protocol Submission

Submit Data Into caNanoLab: Sample

1. Submit a sample
    1. Enter general sample information
    2. Enter sample composition
    3. Enter a characterization referencing the submitted protocol
    4. Submit a publication associated with the sample
2. Search for the submitted sample
3. Change the sample access
    1. Create a collaboration group and assign the sample to the collaboration group
    2. Request the sample be made publically available

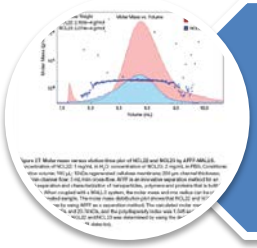


General Information

- Submit Sample Name and Investigator or other point of contact

Composition

- Submit Nanomaterial and Functionalizing Entities and Chemical Associations

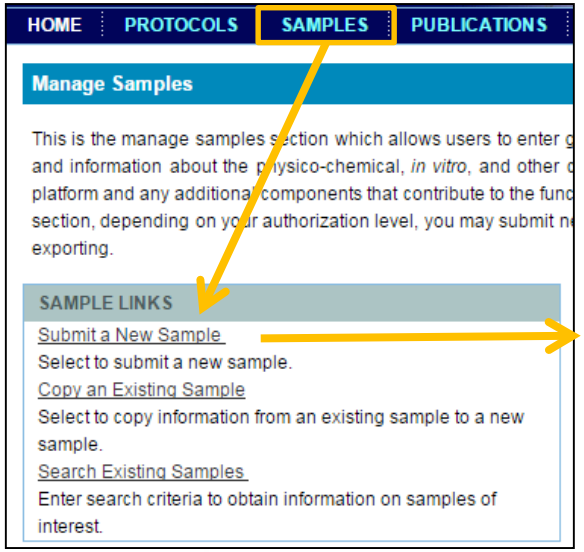


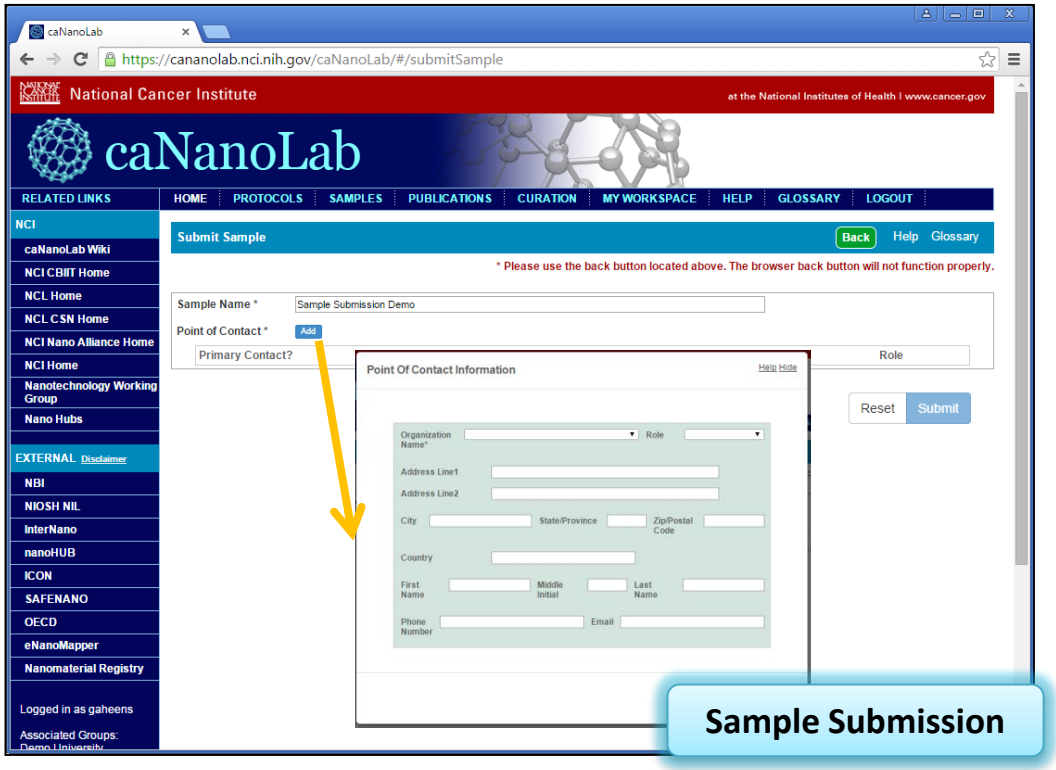
Characterizations

- Submit Physico-Chemical, *In Vitro*, and/or *In Vivo* Characterizations

Submit Data into caNanoLab: General Sample Information

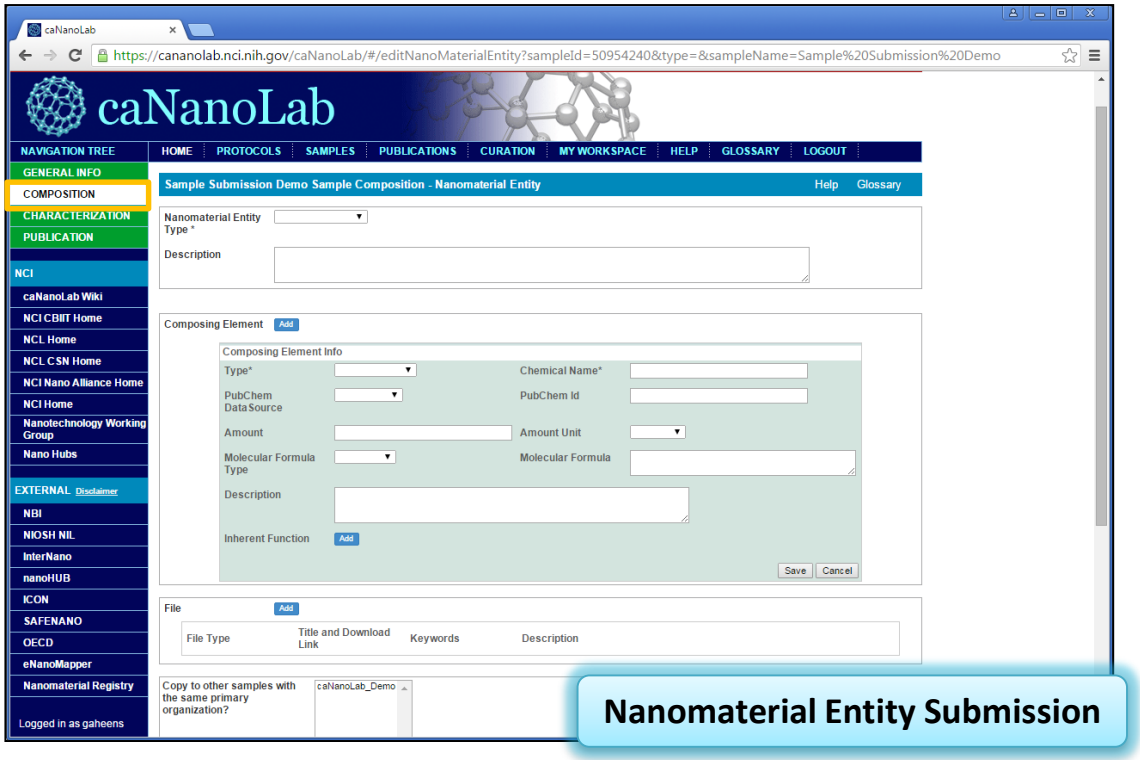
1. Select to submit a new sample
2. Enter the *Sample Name*
3. Select to add a *Point of Contact*
4. Enter the *Organization Name* and Save
5. Enter a few *Keywords* and Submit





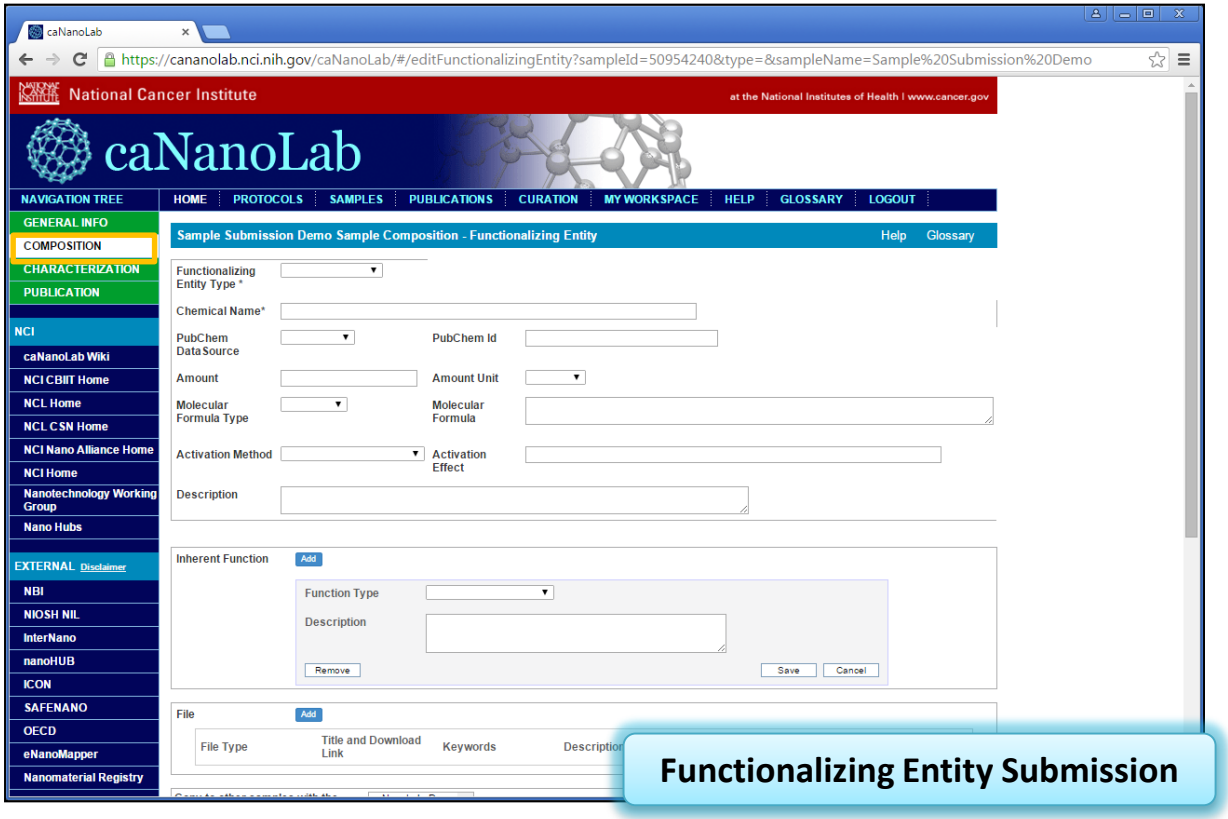
Submit Data into caNanoLab: Sample Composition (1 of 3)

1. Select to submit *Composition* information
2. Select to add a *Nanomaterial Entity*
3. Select the *Nanomaterial Entity* Type for your particle and enter a *Description* and any *Properties*
4. Add a *Composing Element* and Save
5. Submit the *Nanomaterial Entity*



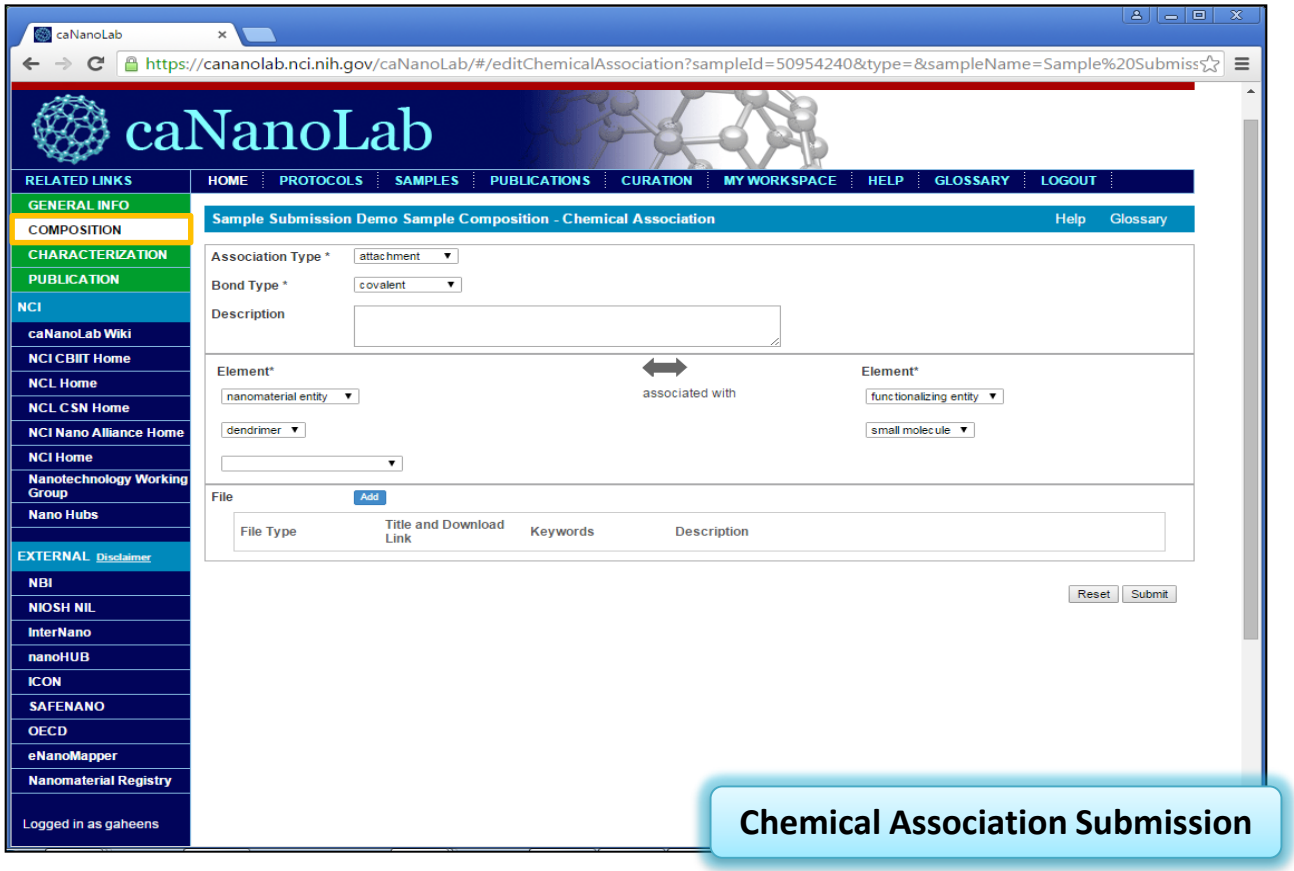
Submit Data into caNanoLab: Sample Composition (2 of 3)

1. Select to add a *Functionalizing Entity*
2. Select the *Functionalizing Entity* Type for your particle and enter a *Chemical Name*
3. Add an *Inherent Function* and Save
4. Submit the *Functionalizing Entity*



Submit Data into caNanoLab: Sample Composition (3 of 3)

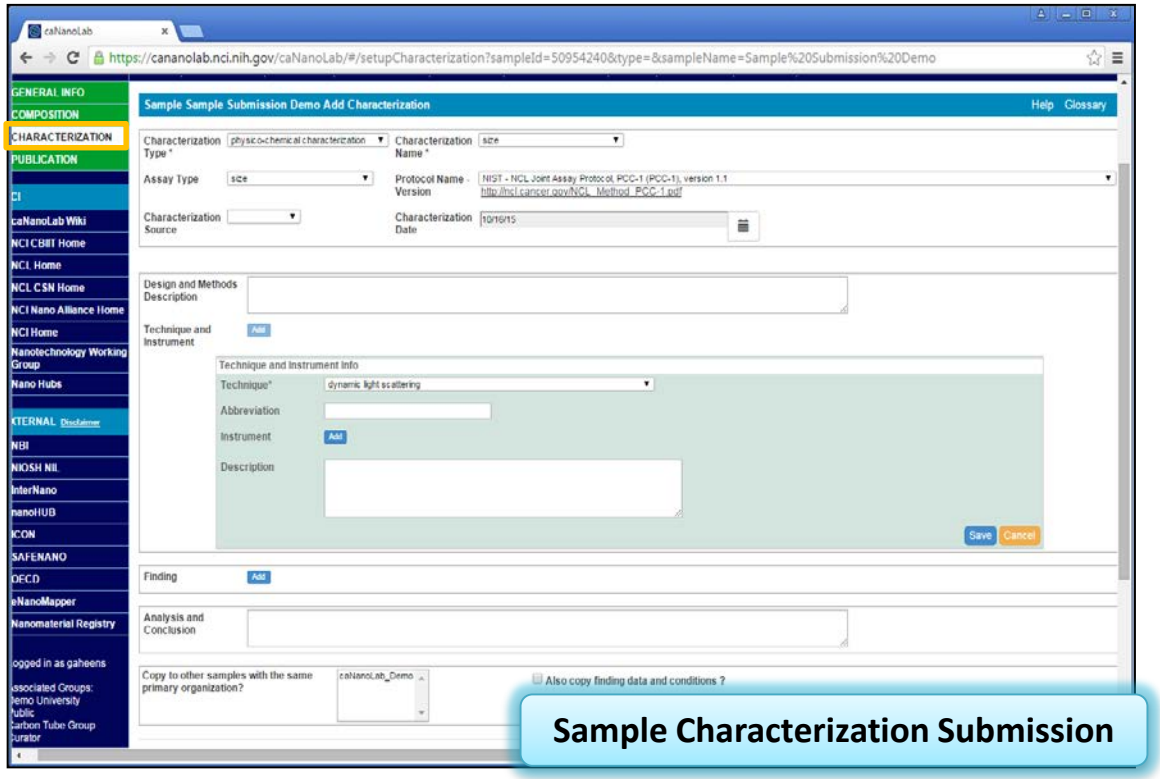
1. Select to submit *Chemical Associations*
2. Select the *Association Type* and *Bond Type*
3. Select the *Elements* that are associated
4. Submit the *Chemical Associations*



Chemical Association Submission

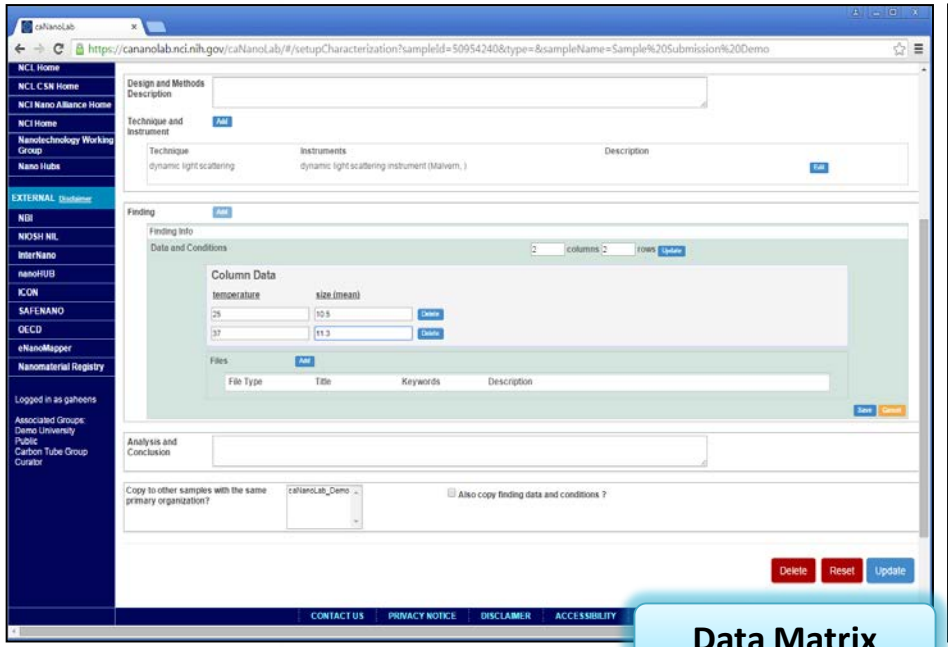
Submit Data into caNanoLab: Sample Characterization (1 of 2)

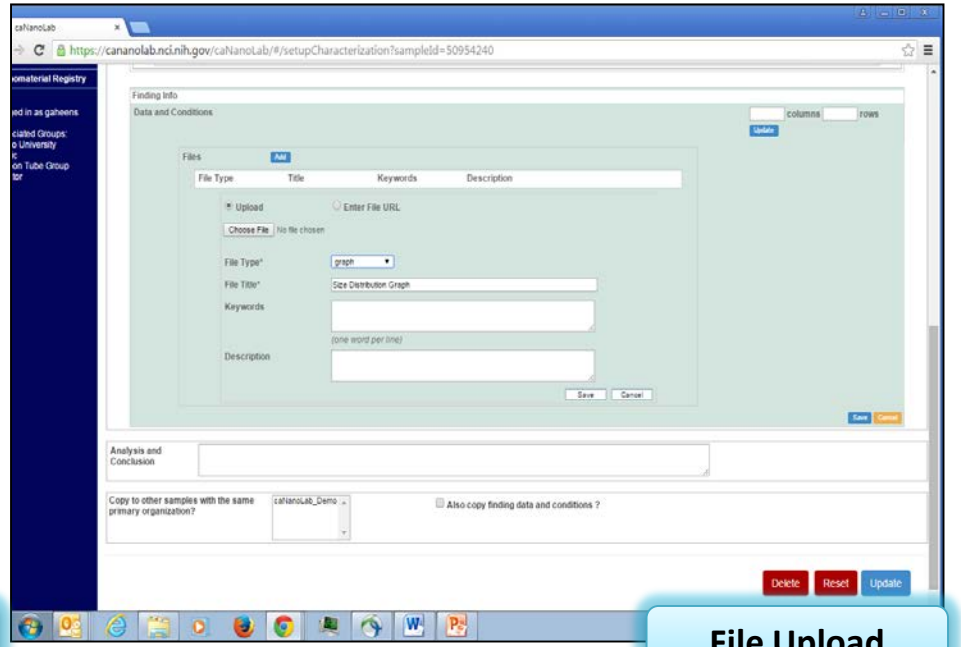
1. Select to submit *Characterization* information
2. Select to add a *Physico-Chemical Characterization, In Vitro Characterization, or In Vivo Characterization*
3. Select the *Characterization Name* for your type of characterization and the Protocol Name
4. Enter *Technique* and Instrument *information* and save



Submit Data into caNanoLab: Sample Characterization (2 of 2)

1. Select to add a *Finding*
2. Enter Data and Conditions by creating a data matrix. Enter the number of *Columns* and *Rows* and update.
3. Select the link to each *Column* and specify whether the *Column* is a datum or condition
4. Select the *Column Name* and complete other *Column Values* as applicable. Save the *Column* and repeat for each *Column*.
5. Type in the values for each row and save the *Finding*
6. Select to Add *Files*
7. Upload the *File*. Select the *File Type* and *File Title* and save.
8. Submit the Characterization

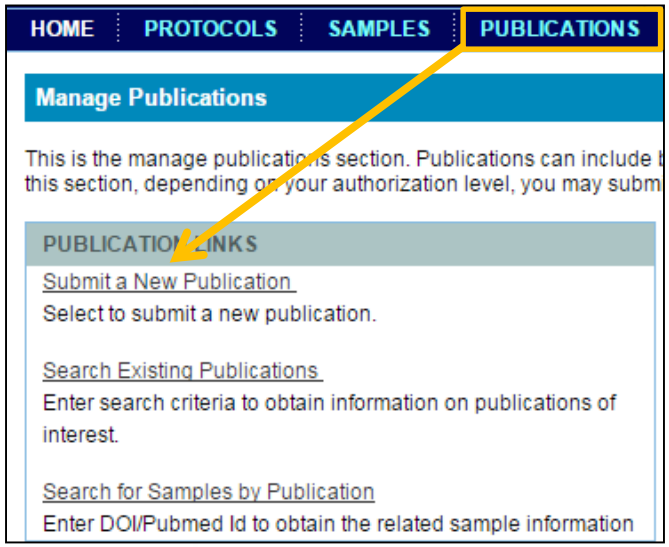


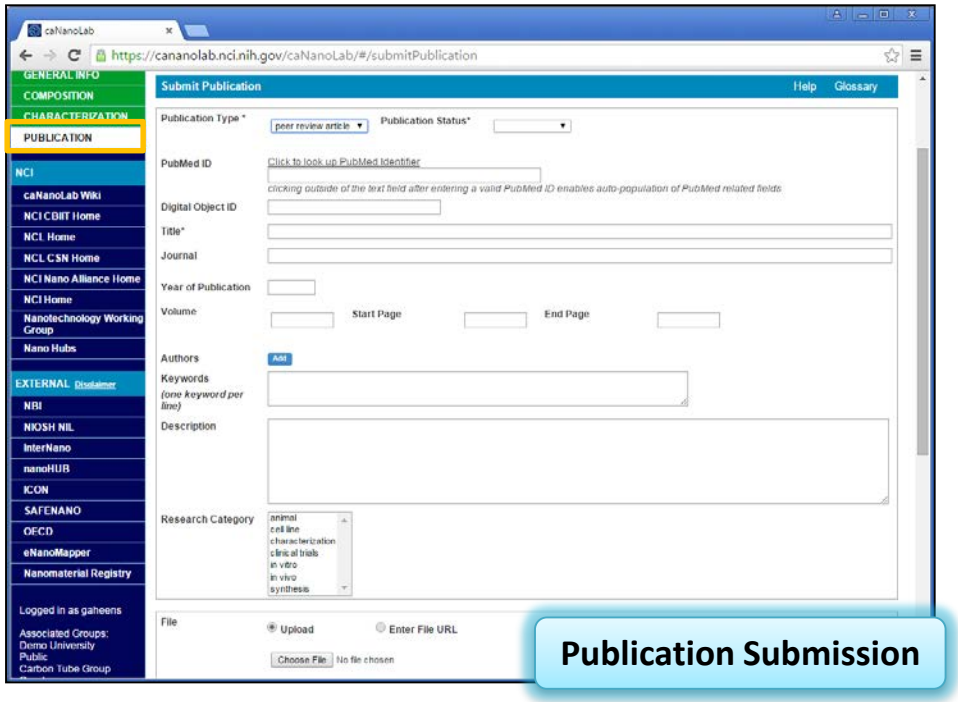


Submit Data into caNanoLab: Sample Publication

1. Select to submit a publication
2. Select *Peer Review Article* as the *Publication Type*
3. Enter the *PubMed ID* for your publication
4. Select to enter another field and submit

Note: Publications can also be submitted via the PUBLICATIONS menu

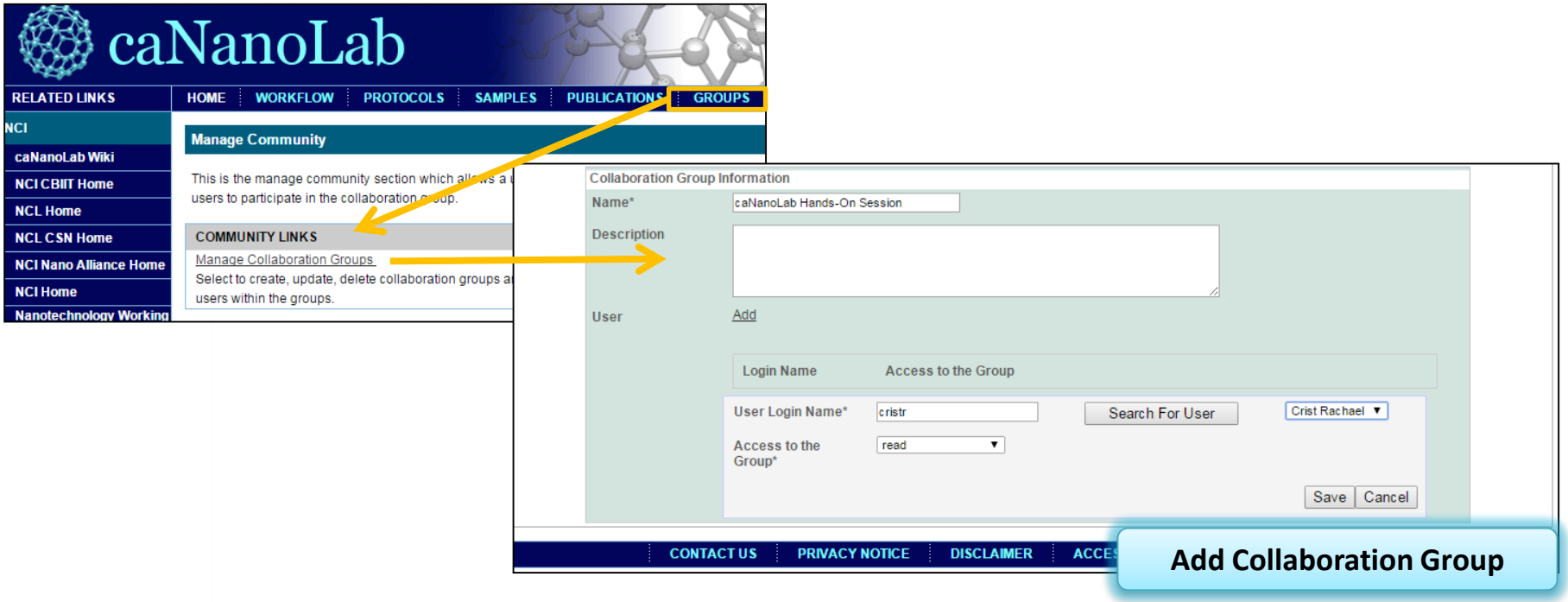




Publication Submission

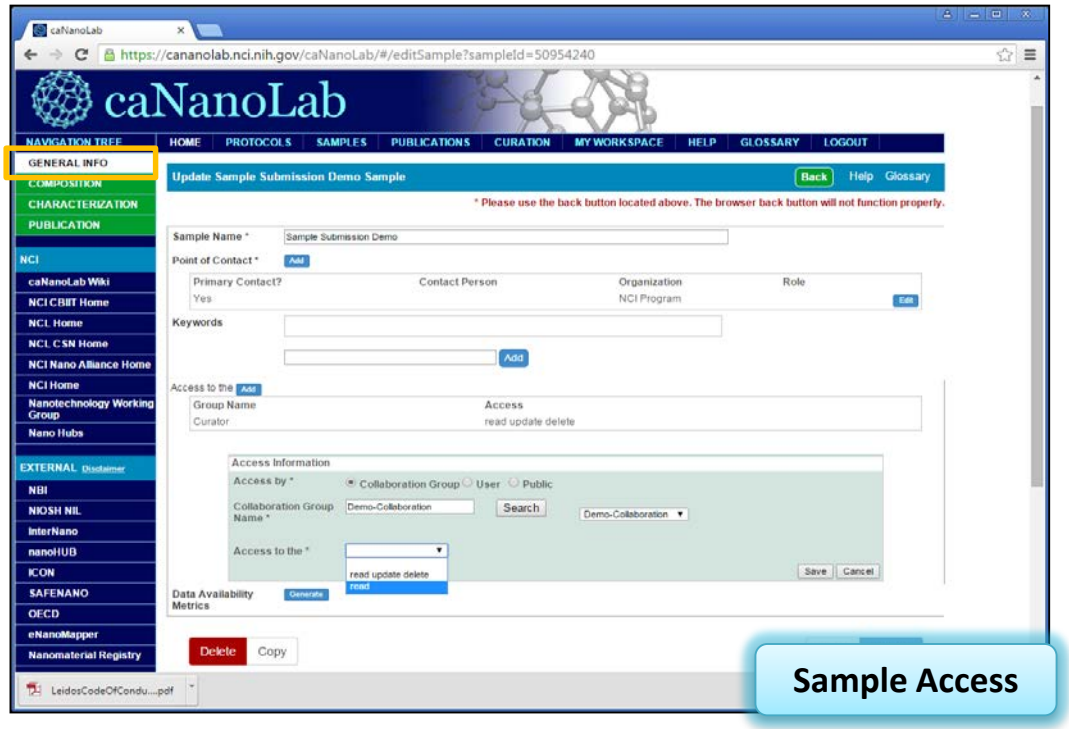
Submit Data into caNanoLab: Collaboration Group

1. Select *Groups*
2. Select *Manage Collaboration Groups*
3. Select to Add a *Collaboration Group*
4. Enter the *Name*
5. Select to Add *Users* by searching for the user
6. Specify *Read* as the Access to Group for each user
7. Select to save the Collaboration Group



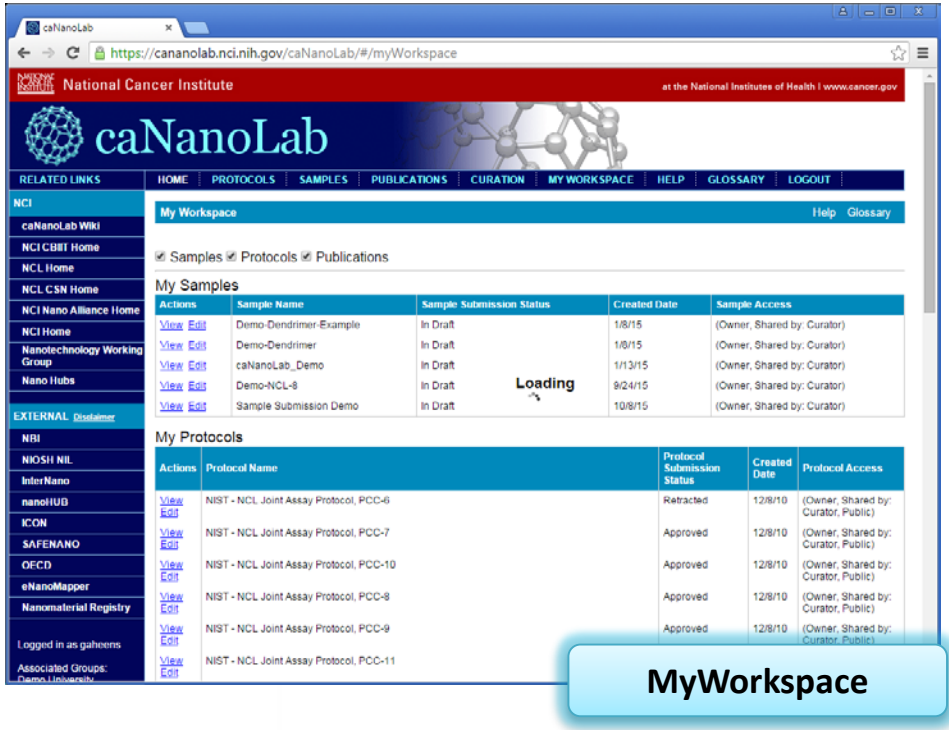
Submit Data into caNanoLab: Sample Access

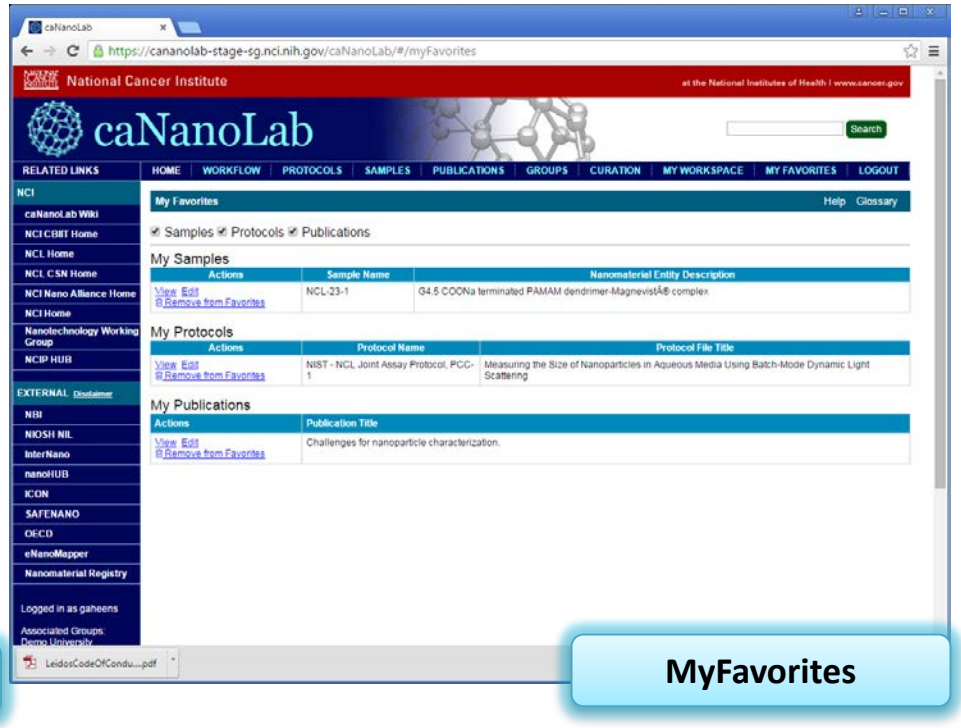
1. Search for the sample previously created and select to Edit the sample
2. Select *General Information*
3. Select to Add Access to the sample
4. Select *Access by Collaboration Group*
5. Search for the new *Collaboration Group and select*
6. Select *Read* access and save
7. Submit the sample for review to make publicly accessible



View MyWorkspace and MyFavorites

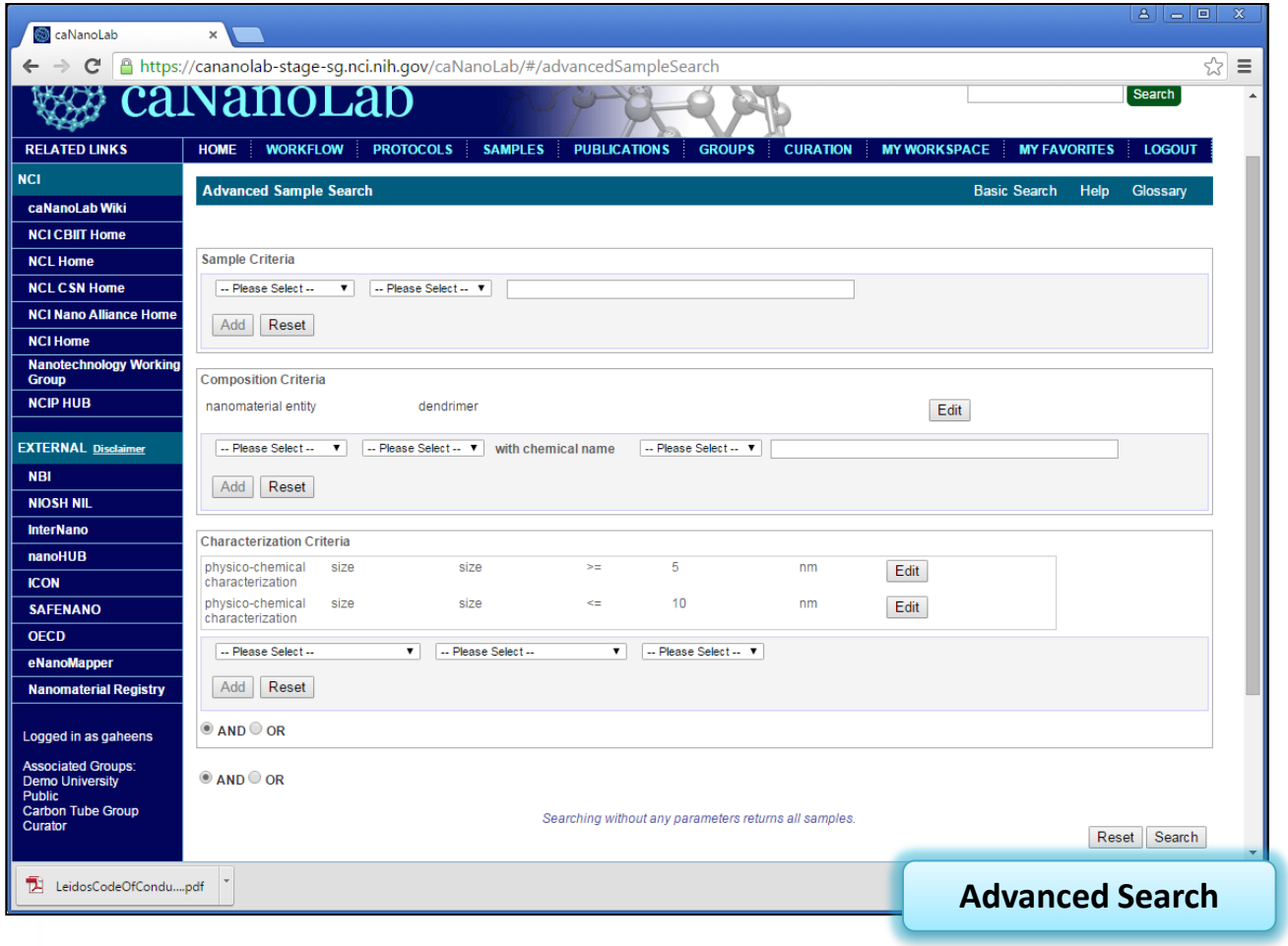
1. View MyWorkspace
2. View MyFavorites
    1. Search for NCL-23 using the Sample Search
    2. In the search results, select to add NCL-23 to favorites
    3. View *My Favorites*





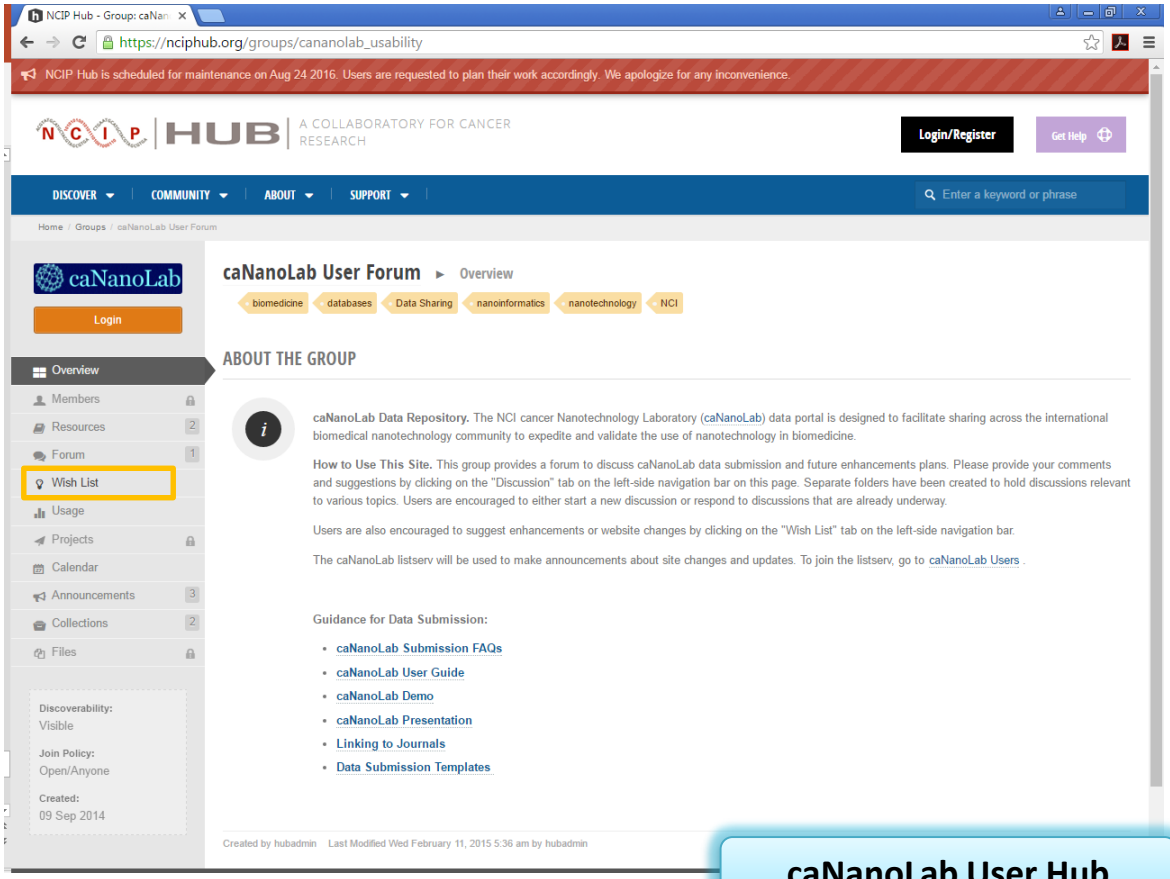
Perform an Advanced Search

1. Perform an advanced search
    1. Search for dendrimers with a size between 5 and 10 nanometers



Submit a Defect or New Feature Request

1. Navigate to the caNanoLab User Forum: https://nciphub.org/groups/cananolab_usability/
2. Select the *Wish List*
3. Add a *Wish*



caNanoLab User Hub

Resources

- caNanoLab Portal
  - https://cananolab.nci.nih.gov
- caNanoLab Wiki
  - https://wiki.nci.nih.gov/display/caNanoLab/caNanoLab+Wiki+Home+Page
- caNanoLab Usability Group
  - https://nciphub.org/groups/cananolab_usability/
- caNanoLab ListServ
  - CANANOLAB-USERS-L-request@LIST.NIH.GOV