

# SYNTHESIS OF DECAGONAL QUASICRYSTALS

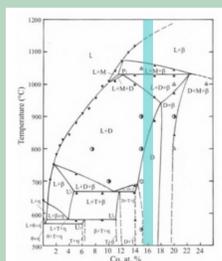
**OBJECTIVES: CREATION OF AN OPTIMAL TECHNIQUE FOR GROWING DECAGONAL QUASICRYSTALS**

**PURPOSE:**

- 1 TO DEVELOP A METHOD FOR THE SYNTHESIS OF DECAGONAL QUASICRYSTALS OF THE ALCOCU SYSTEM
- 2 DETERMINE THE OPTIMAL PARAMETERS FOR OBTAINING SAMPLES OF THE MAXIMUM SIZE

**METHODS:**

## COMPOSITION SELECTION AND MASS CALCULATION



Кристалл	γ	Атомная масса	Итоговая масса
Al	65.0	26.982	1753.83
Co	16.3	58.933	960.6079
Cu	17.7	63.546	1124.7642
Si	1	28.086	28.086
			3867.2881

необходимая м, г	2
сумма на таблетку	1933.64405
<b>МАССЫ</b>	
Al	0.9070
Co	0.4968
Cu	0.5817
Si	0.0145

## WEIGHING AND MIXING



## PRESSING INTO A TABLET



## CRYSTAL SELECTION



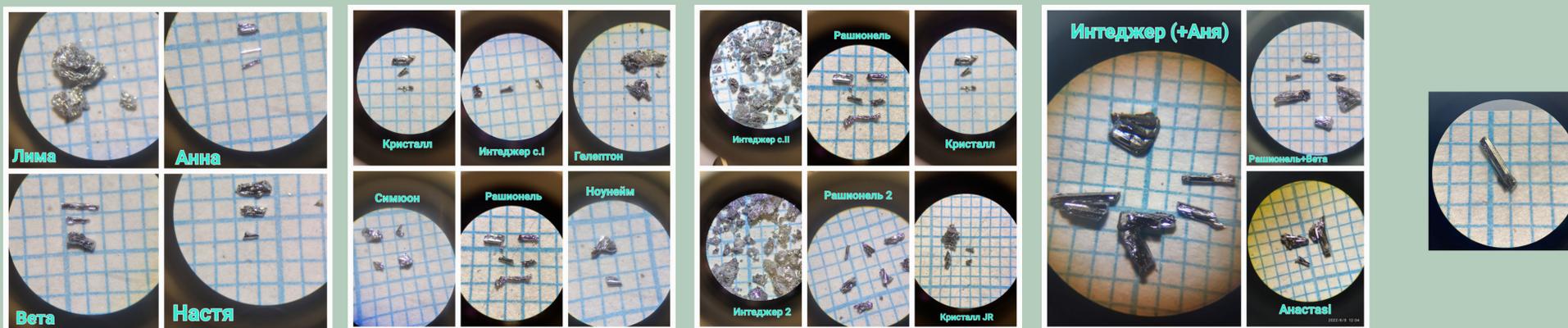
## HEAT TREATMENT



## PLACING IN AN INERT ATMOSPHERE



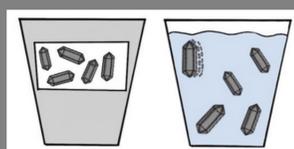
**RESULTS:**



a series of quasicrystals large enough for analysis and study

**CONCLUSION: THE ADDITION OF A SEED SIGNIFICANTLY AFFECTS THE SIZE OF THE RESULTING SAMPLES**

**PARTNERS:**



Using the seed as a crystallization center