

45.

DISSERTATIO ACADEMICA  
HISTORIAM DOCTRINÆ  
DE  
AFFINITATIBUS CHEMICIS

EXHIBENS,  
CUJUS PARTEM DECIMAM  
CONSENSU AMPLISS. FAC. PHIL. ABOËNS.  
PRÆSIDE

MAG. JOHANNÈ GADOLIN,

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PRO GRADU

PUBLICO EXAMINI SUBJICIT

GUSTAVUS ADOLPHUS HELDAAN,

STIPENDIARIUS ARCHENHOLTZ, ET SEGERCRANTZ.

IN AUDIT. PHILOS. DIE XXVIII NOV. MDCCCXVIII.

H. P. M. S.

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ABOË, TYPIS FRENCKELIANIS.

21.

Incertam esse censemus, quæ a pelluciditate desumitur, distinctionem inter chemicas corporum uniones & mechanicas eorum mixtiones, cum fieri utique possit, ut recta transeant radii luminis via per corpora, sive liquida sive solida, ex particulis heterogeneis compaginata: cujus phaenomeni exempla suppeditare videntur sales soluti, qui sua sponte menstruum deserunt.

Acu rem non tetigerunt, qui *solutiones* chemicas, in quibus conspicua sit natura singularum partium a mechanica tantum mixtione derivatas voluerunt, ideoque a *disolutionibus* distinxerunt, ubi novæ proflus affectiones sese sensibus manifestent, cum omnis inter hæc conjunctionum genera in eo consistat differentia, ut in illis majus in his minus detrimentum virium sibi propriarum patiantur corpora.

Contra notionem conjunctionis chemicæ experientia acquisitam repugnare videtur opinio eorum, qui judicent in corpore ita composito, ut aliqua abundet pars, adesse simul & compositum neutrum, plena saturatione partium productum, & liberam seu nudatam partem, cum certe homogenea sint in omnibus mixta, & fiant per gradus insensibiles conjunctiones.

Quamvis definitæ non raro inveniantur proportionibus partium in corporibus compositis, jure tamen concludere non licebit, quod illæ partes in aliis quoque proportionibus inter se consociari nequeant. Videmus enim sales ab infinite parva quantitate incipiendo, per gradus ab aqua usque ad plenam saturationem solvi, acida similiter gradatim cum basibus conjungi, & oxidata metalla in solutionibus pedetentim ex oxidulis in oxida & hyperoxida converti.

Veram causam, cur nonnisi in definitis proportionibus compareant connubia corporum eam esse contendimus, quod in ita conjunctis determinata fiat cohesio formæ conveniens, quam affectare videntur composita.

Non dubitamus his assentiri, qui rationem formarum in corporibus compositis ex figuris partium infinite parvarum derivandam esse censent, existimantes has figuras molecularum ex geometrica analysi crystallosum, per conjunctiones productarum, quondam detectas iri.

Veram inter corpora chemicis *simplicia* appellata & *composita* differentiam in eo consistere autumamus, quod in illis maxime acta locum habeat adunatio partium ponderabilium, maximeque remotæ sint vires a quibus virtutes partium diversæ, ante conjunctionem dependerant, in his vero ex remanentibus viribus insitis, residuæ adhuc appareant nonnullæ singularum partium affectiones.



Affinitates ad	ACIDI SULPHURICI	ACIDI NITRICI	ACIDI MURIATICI	ACIDI ACETICI	ACIDI CARBONICI
BARYAM	— 66	— 62	— 36	— 28	— 14
POTASSAM	— 62	— 58	— 32	— 26	— 9
SODAM	— 58	— 50	— 31	— 25	— 8
CALCEM	— 54	— 44	— 24	— 19	— 12
MAGNESIAM	— 50	— 40	— 22	— 17	— 6
AMMONIACAM	— 46	— 38	— 21	— 20	— 4
ALUMINAM	— 40	— 36	— 18	— 15	— 2.

Monuit tamen DE MORVEAU hos affinitatum valores repetitis adhuc & variatis experimentis propius esse examinandos & corrigendos, antequam naturæ exactissime consoni fiant; prætereaque observavit eosdem nonnisi vires respicere, quibus inter se cohæreant substantiæ ad mutuam saturationem conjunctæ, cum aliæ prorsus sint affinitatum rationes in corporibus, ea conditione compositis, ut alterutra abundet pars constitutiva.

Sed obstitit ipsa affectionum natura, quominus valores illi conjecturis prospecti per experimenta adumbrata possent ad unguem examinari. Plerisque enim in casibus phænomena affinitatum duplicium a cognitis jam legibus affinitatum simplicium ita præfinita esse inveniebantur, ut ad has accuratius noscendas vix ac ne vix quidem conduceret illorum investigatio. Quoties namque, quod in mixtione duorum salium ut plurimum contingit, una affinitatum quiescentium superior aut inferior sit una affinitatum divellentium, atque insimul altera illarum ad alteram harum parem habeat rationem, patet, quod ex cognito affinitatum simplicium ordine, quæcunque ceteroquin sit earum proportio, latis intelligatur utrum potior sit summa affinitatum quiescentium, an eam vincat summa affinitatum divellentium. Quæ res, ut melius illustretur, in aspectum proferemus tabulam affinitatum duplicium a DE FOURCROY ad plurima salia neutra ex acidis & alcalibus vel terris, suo tempore cognita, extensam, neglectis salis

salibus metallicis, quorum mutationes magis variabiles, & ad peculiare leges adstrictæ esse videbantur (4p). In sequenti itaque synopsis litteris cursivis ea significamus salia, quæ nonnisi vi affinitatum duplicium, a sale litteris quadratis designato mutari vidit, quorum propterea *necessarias* appellavit *attractiones* efficaces; litteris vero ordinariis, quorum mutationes *attractionibus* duplicibus *superfluis* perfici dixit DE FOURCROY, quoniam ex cognitione affinitatum simplicium patefcant, vel quorum causas mutationum non explanavit: & signo interrogationis ea notavimus, quorum mutationes ipsi dubiæ fuerunt. Sic, transitis mutue partibus, submutari videbantur:

SULPHAS BARYTÆ: *carbonas potassæ, carbonas sodæ,*

SULPHAS

POTASSÆ: *fulphis barytæ, nitras barytæ, nitras frontianæ; nitris calcis, nitris barytæ, nitris frontianæ, nitris calcis, murias barytæ, murias frontianæ, murias calcis, phosphas barytæ, phosphis barytæ, fluas barytæ, boras barytæ.*

SULPHAS

SODÆ: *fulphis barytæ, fulphis potassæ, nitras barytæ, nitras potassæ, nitras frontianæ, nitras calcis, nitris barytæ, nitras potassæ, nitris frontianæ, nitris calcis, murias barytæ, murias potassæ, murias frontianæ, murias calcis, phosphas barytæ, phosphas potassæ, phosphis barytæ, phosphis potassæ, fluas barytæ, fluas potassæ, boras barytæ, boras potassæ, carbonas potassæ.*

SULPHAS

STRONTIANÆ: *fulphis barytæ, fulphis potassæ, fulphis sodæ, nitras barytæ, murias barytæ, phosphas barytæ, phosphas potassæ, phosphas sodæ, phosphas am-*  
*moni-*



*moniacæ*, phosphis barytæ, phosphis potasæ, phosphis sodæ, *phosphis ammoniacæ*, fluas barytæ, fluas potasæ? fluas sodæ? *fluas ammoniacæ*? boras barytæ? boras potasæ? boras sodæ? boras ammoniacæ, carbonas barytæ? carbonas potasæ, carbonas sodæ.

## SULPHAS

CALCIS: sulphis barytæ, sulphis potasæ, sulphis sodæ, nitras barytæ, nitras frontianæ, nitris barytæ, nitris frontianæ, murias barytæ, murias frontianæ, phosphas barytæ, phosphas frontianæ? phosphas potasæ, phosphas sodæ, *phosphas ammoniacæ*, *phosphas aluminæ*? phosphis barytæ, phosphis frontianæ, phosphis potasæ, phosphis sodæ, *phosphis ammoniacæ*, *phosphis aluminæ*, fluas barytæ? fluas frontianæ? *fluas magnesiæ*? fluas potasæ, fluas sodæ, *fluas ammoniacæ*, boras barytæ, boras frontianæ, *boras magnesiæ*, boras potasæ, boras sodæ, *boras ammoniacæ*, carbonas barytæ? carbonas frontianæ? carbonas potasæ, carbonas sodæ, *carbonas ammoniacæ*.

## SULPHAS

AMMONIACÆ: sulphis barytæ, sulphis potasæ, sulphis sodæ, sulphis frontianæ, *sulphis magnesiæ* (juvante calore), nitras barytæ, nitras potasæ? nitras sodæ? nitras frontianæ, nitras calcis, *nitras magnesiæ*, (juvante calore), *nitras ammoniacæ & magnesiæ*, nitris barytæ, nitris potasæ, nitris sodæ, nitris frontianæ, nitris calcis, *nitris magnesiæ*, *nitris ammoniacæ & magnesiæ*, murias barytæ, murias potasæ, murias sodæ, murias frontianæ, murias calcis, *murias magnesiæ*, *murias ammoniacæ & magnesiæ*, *murias aluminæ*, phosphas barytæ, phosphas potasæ, phosphas sodæ, phosphas sodæ & ammoniacæ, phosphis bary-

barytæ, phosphis potasfæ, phosphis sodæ, phosphis sodæ & ammoniacæ, fluas barytæ, fluas strotianæ, fluas potasfæ, fluas sodæ, fluas sodæ & filicæ, boras barytæ, boras potasfæ, boras sodæ, carbonas barytæ, carbonas strotianæ? *carbonas calcis*, carbonas potasfæ, carbonas sodæ, *carbonas magnesifæ*.

## SULPHAS

MAGNESIÆ: sulphis barytæ, sulphis potasfæ, sulphis sodæ, sulphis strotianæ, *sulphis ammoniacæ*, nitras barytæ, nitras potasfæ, nitras sodæ, nitras strotianæ, nitras calcis, *nitras ammoniacæ*, nitrites earundem basium; murias barytæ, murias strotianæ, murias calcis, phosphas barytæ, phosphas potasfæ, phosphas sodæ, phosphas strotianæ? phosphas ammoniacæ, phosphites earundem basium, fluas barytæ, fluas strotianæ, fluas potasfæ, fluas sodæ, *fluas ammoniacæ?* boras barytæ, boras strotianæ, boras potasfæ, boras sodæ, *boras ammoniacæ*, carbonas barytæ, carbonas strotianæ, carbonas calcis, carbonas potasfæ, carbonas sodæ, *carbonas ammoniacæ*.

## SULPHAS

## AMMONIACÆ

& MAGNESIÆ: sulphis barytæ, sulphis potasfæ, sulphis sodæ, sulphis strotianæ, nitras barytæ, nitras potasfæ, nitras sodæ, nitras strotianæ, nitras calcis, nitrites earundem basium, murias barytæ, murias potasfæ, murias sodæ, murias strotianæ, murias calcis, phosphas barytæ, phosphas potasfæ, phosphas sodæ, phosphites earundem basium, fluas barytæ, fluas strotianæ, fluas potasfæ, fluas sodæ, *fluas ammoniacæ?* boras barytæ, boras strotianæ, boras potasfæ, boras sodæ, *boras ammoniacæ?* carbonas barytæ, carbonas strotianæ, *carbonas calcis*, juvante calore, carbonas potasfæ, carbonas sodæ, *carbonas magnesifæ*.

SUL-



## SULPHAS

GLUCINÆ: sulphis barytæ, sulphis potasfæ, sulphis sodæ, sulphis frontianæ, nitras barytæ, nitras potasfæ, nitras sodæ, nitras frontianæ, nitras calcis, nitras ammoniacæ, nitras magnesiæ, nitras ammoniacæ & magnesiæ, nitrites earundem basium, murias barytæ, murias potasfæ, murias sodæ, murias frontianæ, murias calcis, murias ammoniacæ, murias magnesiæ, murias ammoniacæ & magnesiæ, phosphas barytæ, phosphas frontianæ? phosphas potasfæ, phosphas sodæ, phosphas ammoniacæ, phosphas magnesiæ, phosphites earundem basium, fluas barytæ, fluas frontianæ, fluas magnesiæ, fluas potasfæ, fluas sodæ, fluas ammoniacæ, boras barytæ, boras potasfæ, boras sodæ, boras ammoniacæ, carbonas barytæ, carbonas frontianæ, carbonas calcis, carbonas potasfæ, carbonas sodæ, carbonas magnesiæ, carbonas ammoniacæ.

## SULPHAS

ALUMINÆ: sulphis barytæ, sulphis potasfæ, sulphis sodæ, sulphis frontianæ, sulphis ammoniacæ, sulphis magnesiæ, sulphis ammoniacæ & magnesiæ, sulphis glucinæ? nitras barytæ, nitras potasfæ (qua partem), nitras sodæ, nitras frontianæ, nitras calcis, nitras ammoniacæ, nitras magnesiæ, nitras ammoniacæ & magnesiæ (qua partem), nitrites earundem basium? murias barytæ, murias potasfæ, murias sodæ, murias frontianæ, murias calcis, murias ammoniacæ, murias magnesiæ, murias ammoniacæ & magnesiæ, murias glucinæ, phosphas barytæ, phosphas potasfæ, phosphas sodæ, phosphas ammoniacæ, phosphas magnesiæ? phosphas glucinæ, phosphites earundem basium? fluas barytæ, fluas frontianæ, fluas magnesiæ, fluas potasfæ, fluas sodæ, fluas ammoniacæ, fluas glucinæ? boras barytæ, boras potasfæ, boras sodæ, boras ammoniacæ,

CAR.

carbonas barytæ, carbonas frontianæ; carbonas calcis, carbonas potasfæ, carbonas sodæ, carbonas magnesiæ, carbonas ammoniacæ, carbonas glucinæ.

## SULPHAS

ZIRCONIÆ: sulphis barytæ, sulphis potasfæ, sulphis sodæ, sulphis frontianæ, sulphis ammoniacæ, sulphis magnesiæ, sulphis ammoniacæ & magnesiæ, sulphis glucinæ, sulphis aluminæ, nitras barytæ, nitras potasfæ, nitras sodæ, nitras frontianæ, nitras calcis, nitras ammoniacæ, nitras magnesiæ, nitras ammoniacæ & magnesiæ, nitras glucinæ, nitras aluminæ, nitrites earundem basium, murias barytæ, murias potasfæ, murias sodæ, murias frontianæ, murias calcis, murias ammoniacæ, murias magnesiæ, murias ammoniacæ & magnesiæ, murias glucinæ, murias aluminæ, phosphas barytæ, phosphas frontianæ, phosphas potasfæ, phosphas sodæ, phosphas ammoniacæ, phosphas magnesiæ, phosphas glucinæ, phosphas aluminæ, phosphites earundem basium, fluas barytæ, fluas frontianæ, fluas magnesiæ, fluas potasfæ, fluas sodæ, fluas ammoniacæ, fluas glucinæ, boras barytæ, boras frontianæ, boras potasfæ, boras sodæ, boras ammoniacæ, carbonas barytæ, carbonas frontianæ, carbonas calcis, carbonas potasfæ, carbonas sodæ, carbonas magnesiæ, carbonas ammoniacæ, carbonas glucinæ, carbonas aluminæ.

## SULPHIS

BARYTÆ: *nitras frontianæ, nitris frontianæ? murias frontianæ, phosphas frontianæ, phosphas calcis acidus, phosphas potasfæ, phosphas sodæ, phosphas ammoniacæ, phosphas sodæ & ammoniacæ, phosphas magnesiæ, phosphas ammoniacæ & magnesiæ, phosphas glucinæ, phosphas zirconicæ, phosphas aluminæ, phosphites earundem basium, exceptis phosphite calcis acida & phosph. sodæ & ammoniacæ, fluas frontianæ? carbonas potasfæ, carbonas sodæ, carbonas ammoniacæ.*



## SULPHIS

CALCIS: phosphas barytæ, phosphas stromianæ, phosphas potassæ, phosphas sodæ, phosphas ammoniacæ, phosphas sodæ & ammoniacæ, phosphas magnesiæ, phosphas ammoniacæ & magnesiæ, phosphas glucinæ, phosphas aluminæ, phosphas zirconicæ, fluas barytæ, fluas stromianæ, fluas magnesiæ, fluas potassæ, fluas sodæ, fluas ammoniacæ, boras stromianæ? boras magnesiæ? carbonas barytæ, carbonas stromianæ, carbonas potassæ, carbonas sodæ, carbonas ammoniacæ.

## SULPHIS

POTASSÆ: nitras barytæ, nitras sodæ, nitras stromianæ, nitras calcis, nitras magnesiæ, nitras ammoniacæ & magnesiæ, nitras glucinæ, nitras aluminæ, nitras zirconicæ, nitrites earundem basium, murias barytæ, murias sodæ, murias stromianæ, murias calcis, murias ammoniacæ, murias magnesiæ, murias ammoniacæ & magnesiæ, murias glucinæ, phosphas sodæ, phosphas sodæ & ammoniacæ, phosphas ammoniacæ, phosphas magnesiæ, phosphas ammoniacæ & magnesiæ, phosphas glucinæ, phosphas aluminæ, phosphas zirconicæ, phosphas silicæ, phosphites earundem basium, (excepta phosphite sodæ & ammoniacæ), fluas barytæ, fluas stromianæ, fluas magnesiæ, fluas sodæ, fluas ammoniacæ, carbonas sodæ.

## SULPHIS

SODÆ: nitras barytæ, nitras stromianæ, nitras calcis, nitras magnesiæ, nitras ammoniacæ & magnesiæ, nitras glucinæ, nitras aluminæ, nitras zirconicæ, nitrites earundem basium? murias barytæ, murias stromianæ, murias calcis, murias ammoniacæ, murias magnesiæ, murias ammoniacæ & magnesiæ, murias glucinæ, murias aluminæ, murias zirconicæ, phosphas calcis, phosphas magnesiæ, phosphas ammoniacæ, phosphas ammoniacæ &

ma-

magnesiæ, phosphas glucinæ, phosphas aluminæ, phosphas zirconicæ, phosphites earundem basium? fluas barytæ, fluas frontianæ, fluas magnesiæ, fluas ammoniacæ, boras potasæ, carbonas potasæ.

## SULPHIS

STRONTIANÆ: nitras calcis, nitras magnesiæ, nitras aluminæ, nitras zirconicæ, nitrites earundem basium, murias calcis? murias aluminæ, murias zirconicæ, phosphas calcis acidus, phosphas potasæ, phosphas sodæ, phosphas ammoniacæ, phosphas sodæ & ammoniacæ, phosphas ammoniacæ & magnesiæ, phosphas glucinæ, phosphas aluminæ, phosphas zirconicæ, phosphites earundem basium (excepta sodæ & ammoniacæ), carbonas barytæ? carbonas calcis? carbonas potasæ? carbonas sodæ? carbonas ammoniacæ?

## SULPHIS

AMMONIACÆ: nitras barytæ, nitras frontianæ, nitras calcis, nitras magnesiæ, nitras ammoniacæ & magnesiæ, nitras glucinæ, nitras aluminæ, nitras zirconicæ, nitrites earundem basium, murias barytæ, murias frontianæ, murias calcis, murias magnesiæ, murias ammoniacæ & magnesiæ, murias glucinæ, murias aluminæ, murias zirconicæ, phosphas calcis acidus, phosphas glucinæ, phosphas aluminæ, phosphas zirconicæ, phosphites earundem basium, fluas barytæ? fluas frontianæ? fluas magnesiæ? boras barytæ, boras frontianæ, boras magnesiæ, boras potasæ, boras sodæ, carbonas barytæ, carbonas potasæ, carbonas sodæ.

## SULPHIS

MAGNESIÆ: nitras barytæ, nitras calcis, nitras glucinæ, nitras aluminæ, nitras zirconicæ, nitrites earundem basium? murias barytæ? murias calcis? murias alu-



aluminæ? murias zirconicæ? phosphas calcis acidus, phosphas potasæ, phosphas sodæ, phosphas ammoniacæ, phosphas ammoniacæ & magnesiæ, phosphas glucinæ, phosphas aluminæ, phosphas zirconicæ, phosphites earundem basium? fluas barytæ, fluas strontianæ, boras strontianæ, boras potasæ, boras sodæ, boras ammoniacæ, carbonas barytæ, carbonas strontianæ, carbonas calcis, carbonas potasæ, carbonas sodæ, carbonas ammoniacæ.

SULPHIS AM-  
MONIACÆ &

MAGNESIÆ: nitras barytæ, nitras strontianæ, nitras calcis, nitras magnesiæ, nitras glucinæ, nitras aluminæ, nitras zirconicæ, nitrites earundem basium, murias barytæ, murias strontianæ, murias calcis, murias glucinæ, murias aluminæ, murias zirconicæ, phosphas calcis acidus, phosphas potasæ, phosphas sodæ, phosphas ammoniacæ, phosphas glucinæ, phosphas aluminæ, phosphas zirconicæ, phosphites earundem basium, fluas barytæ, fluas strontianæ, fluas magnesiæ, boras strontianæ, boras magnesiæ, boras potasæ, boras sodæ, boras ammoniacæ, carbonas barytæ, carbonas strontianæ, carbonas calcis, carbonas potasæ, carbonas sodæ, carbonas ammoniacæ.

SULPHIS

GLUCINÆ: nitras barytæ, nitras calcis, nitras aluminæ, nitras zirconicæ, nitrites earundem basium, murias barytæ, murias strontianæ, murias calcis, murias aluminæ, murias zirconicæ, phosphas calcis acidus, phosphas potasæ, phosphas sodæ, phosphas ammoniacæ, phosphas aluminæ, phosphas zirconicæ, phosphites earundem basium, fluas barytæ, fluas strontianæ, boras strontianæ, boras magnesiæ, boras ammoniacæ, carbonas

bonas barytæ, carbonas frontianæ, carbonas calcis, carbonas potassæ, carbonas sodæ, carbonas magnesiæ, carbonas ammoniacæ.

## SULPHIS

ALUMINÆ: nitras barytæ, nitras calcis, *nitras zirconia*, nitrites earundem basium, murias barytæ, murias calcis, murias zirconia, phosphas calcis acidus, phosphas zirconia, phosphites earundem basium? boras barytæ? boras frontianæ? boras magnesiæ? carbonas barytæ, carbonas frontianæ, carbonas calcis, carbonas potassæ, carbonas sodæ, carbonas magnesiæ, carbonas ammoniacæ, carbonas glucinæ.

## SULPHIS

ZIRCONIÆ: nitras barytæ, nitras calcis, nitris barytæ, nitris calcis, murias barytæ, murias frontianæ, murias calcis, carbonas barytæ, carbonas frontianæ, carbonas calcis, carbonas potassæ, carbonas sodæ, carbonas magnesiæ, carbonas ammoniacæ, carbonas glucinæ.

## NITRAS

BARYTÆ: *phosphas potassæ, phosphas sodæ, phosphas ammoniacæ, phosphites earundem basium?* fluas potassæ? fluas sodæ? fluas ammoniacæ? *boras potassæ? boras sodæ, boras ammoniacæ, carbonas potassæ, carbonas sodæ, carbonas ammoniacæ.*

NITRAS POTASSÆ: murias barytæ.

NITRAS SODÆ: murias barytæ, murias potassæ, phosphas potassæ, phosphis potassæ, fluas potassæ, boras potassæ, carbonas potassæ.

## NITRAS

STRONTIANÆ: murias barytæ, murias potassæ, murias sodæ, phosphas barytæ, phosphas potassæ, *phosphas ammoniacæ*, phosphas sodæ, phosphas sodæ &  
ammo-



ammoniacæ? phosphites earundem basium, fluas potas-  
sæ? fluas sodæ, fluas ammoniacæ, boras potassæ, bo-  
ras sodæ, boras ammoniacæ, carbonas barytæ, carbo-  
nas potassæ, carbonas sodæ.

## NITRAS

CALCIS: murias barytæ, murias potassæ, murias sodæ, murias  
frontianæ, phosphas barytæ, phosphas frontianæ,  
phosphas potassæ, phosphas sodæ, phosphas ammoni-  
acæ, phosphas magnesiæ? phosphites earundem basium,  
fluas barytæ? fluas frontianæ, fluas magnesiæ? fluas  
potassæ, fluas sodæ, fluas ammoniacæ, boras barytæ,  
boras frontianæ, boras potassæ, boras sodæ, boras  
ammoniacæ, carbonas barytæ, carbonas frontianæ,  
carbonas potassæ, carbonas sodæ.

## NITRAS AM-

MONIACÆ: murias barytæ, murias potassæ, murias sodæ, murias  
frontianæ, murias calcis, phosphas potassæ, phos-  
phas sodæ, phosphites earundem basium, fluas po-  
tassæ, fluas sodæ, boras potassæ, boras sodæ, boras  
sodæ balicus, carbonas potassæ, carbonas sodæ.

## NITRAS

MAGNESIÆ: murias barytæ, murias potassæ, murias sodæ, mu-  
rias frontianæ, murias calcis, murias ammoniacæ  
(qui duo producit salia triplicia), phosphas bary-  
tæ? phosphas frontianæ? phosphas potassæ, phos-  
phas sodæ, phosphas ammoniacæ (qui duo pro-  
gignit salia triplicia), phosphites earundem basium,  
fluas barytæ, fluas frontianæ? fluas potassæ, fluas  
sodæ, fluas ammoniacæ, boras frontianæ? boras po-  
tassæ, boras sodæ, carbonas potassæ, carbonas sodæ,

## NITRAS AM-

## MONIACÆ &amp;

MAGNESIÆ: murias barytæ, murias potassæ, murias sodæ, mu-  
rias frontianæ, murias calcis, murias ammoniacæ?  
phos-

phosphas barytæ, phosphas potasæ, phosphas sodæ, phosphites earundem basium, fluas barytæ, fluas frontianæ, fluas potasæ, fluas sodæ, fluas ammoniacæ, boras frontianæ, boras potasæ, boras sodæ, boras ammoniacæ, carbonas potasæ, carbonas sodæ.

## NITRAS

GLUCINÆ: murias barytæ, murias potasæ, murias sodæ, murias frontianæ, murias calcis, murias ammoniacæ, phosphas barytæ? phosphas potasæ, phosphas sodæ, phosphas ammoniacæ, phosphas magnesiæ, phosphites earundem basium, fluas potasæ, fluas sodæ, fluas ammoniacæ, boras potasæ, boras sodæ, boras ammoniacæ, carbonas potasæ, carbonas sodæ, carbonas ammoniacæ.

## NITRAS

ALUMINÆ: murias barytæ, murias potasæ, murias sodæ, murias frontianæ, murias calcis, murias ammoniacæ, murias glucinæ, phosphas barytæ? phosphas frontianæ? phosphas magnesiæ? phosphas potasæ, phosphas sodæ, phosphas ammoniacæ, phosphas glucinæ, phosphites earundem basium, fluas potasæ, fluas sodæ, fluas ammoniacæ, boras potasæ, boras sodæ, boras ammoniacæ, carbonas potasæ, carbonas sodæ, carbonas magnesiæ, carbonas glucinæ.

## NITRAS

ZIRCONIÆ: murias barytæ, murias potasæ, murias sodæ, murias frontianæ, murias calcis, murias ammoniacæ, murias glucinæ, murias aluminæ, phosphas barytæ? phosphas frontianæ? phosphas potasæ? phosphas sodæ, phosphas ammoniacæ, phosphas magnesiæ, phosphas glucinæ, phosphas aluminæ, phosphites earundem basium, fluas potasæ, fluas sodæ, fluas ammoniacæ, boras potasæ, boras sodæ, boras ammoniacæ, carbonas potasæ, carbonas sodæ, carbonas magnesiæ, carbonas glucinæ, carbonas aluminæ.