Details about analysis of all prime orientable 3-manifolds with *gem-complexity* 14 (i.e. which admit crystallizations with 30 vertices and do not admit crystallizations with less than 30 vertices) are shown in the following Table 2.

Each row of the table corresponds to a different manifold:

- The first column gives information about the *minimal gem* for the considered manifold M^3, that is the first element in the crystallization catalogue $\mathcal{C}^{30}$ representing M^3: more precisely, r^{30}_j denotes the j-th crystallization with 30 vertices belonging to the catalogue $\mathcal{C}^{30}$.

- The second column identifies M^3 via its JSJ decomposition or fibering structure.

- The third (resp. fourth) column contains the first homology group (resp. the geometric structure[1]) for M^3.

- The fifth column identifies M^3 within Matveev's tables of manifolds represented by spines of complexity ≤ 11 (see [M]: S.Matveev, *Table of closed orientable irreducible three-manifolds up to complexity 11*, available at the Web page: http://www.topology.kb.csu.ru/~recognizer); more precisely, c_x means that M^3 is the x-th element of Matveev's table of complexity c closed orientable 3-manifolds.

As far as the identification of M^3 (contained in the second column) is concerned, the following notations are used:

- $\mathbb{S}^3/G$ is the quotient space of $\mathbb{S}^3$ by the action of the group G; the involved groups are (direct products of) cyclic groups $\mathbb{Z}_n$ $(n \in \mathbb{Z}^+)$, or groups of type $Q_{4n} =< x, y \,|\, x^2 = (xy)^2 = y^n >$, $D_{2^k(2n+1)} =< x, y \,|\, x^{2^k} = 1, y^{2n+1} = 1, xyx^{-1} = y^{-1} >$ $(n \in \mathbb{Z}^+)$;

- $(F, (p_1, q_1), , \dots, (p_k, q_k), (1, b))$ is the Seifert fibered manifold with base surface F, twisting parameter b and k disjoint fibres, having (p_i, q_i), $i = 1, \dots, k$ as normalized parameters;

- for each matrix $A \in GL(2; \mathbb{Z})$ with $\det(A) = +1$, $TB(A) = T \times I/A$ is the orientable torus bundle over $\mathbb{S}^1$ with monodromy induced by A;

- for each matrix $A \in GL(2; \mathbb{Z})$ with $\det(A) = -1$, $(K \tilde{\times} I) \cup (K \tilde{\times} I)/A$ is the orientable 3-manifold obtained by pasting together, according to A, two copies of the orientable $I-$bundle over the Klein bottle K;

- $H_1 \bigcup_A H_2$ is the graph manifold obtained by gluing Seifert manifold H_1 and Seifert manifold H_2 (whose base surfaces are either the annulus $\mathbb{A}$ or the disc $\mathbb{D}$) along their boundary tori by means of the attaching map associated to matrix A;

[1]Geometric structure, if any, is given according to [P.Scott, *The geometries of 3-manifolds*, Bull. London Math. Soc. **15** (1983), 401-487]; the symbol "-" is used to denote a non-geometric manifold.

- $Q_i(p,q)$ denotes the manifold obtained as Dehn filling with parameters (p,q) of the hyperbolic manifold Q_i of finite volume and with a single cusp (see the table of manifolds with a single cusp in the SnapPea software by Weeks, available for anonimous FTP from www.geometrygames.org/SnapPea).

minimal gem	**prime orientable 3-manifold $\mathbf{M^3}$**	$\mathbf{H_1(M^3)}$	**geometry**	**position in [M]**
r^{30}_{1203}	$\mathbb{S}^3/D_{80}$	$\mathbb{Z}_{16}$	S^3	6_{44}
r^{30}_{1053}	$\mathbb{S}^3/D_{112}$	$\mathbb{Z}_{16}$	S^3	6_{48}
r^{30}_{18250}	$\mathbb{S}^3/(Q_{28} \times Z_5)$	$\mathbb{Z}_{20}$	S^3	6_{49}
r^{30}_{21444}	$\mathbb{S}^3/(Q_{32} \times Z_5)$	$\mathbb{Z}_2 + \mathbb{Z}_{10}$	S^3	6_{51}
r^{30}_{1045}	$\mathbb{S}^3/(P_{48} \times Z_{11})$	$\mathbb{Z}_{22}$	S^3	6_{57}
r^{30}_{1035}	$\mathbb{S}^3/(P_{48} \times Z_5)$	$\mathbb{Z}_{10}$	S^3	6_{56}
r^{30}_{1040}	$\mathbb{S}^3/(P_{48} \times Z_7)$	$\mathbb{Z}_{14}$	S^3	6_{55}
r^{30}_{19178}	$\mathbb{S}^3/(P_{120} \times Z_{23})$	$\mathbb{Z}_{23}$	S^3	6_{61}
r^{30}_{17733}	$\mathbb{S}^3/(P_{120} \times Z_{17})$	$\mathbb{Z}_{17}$	S^3	6_{60}
r^{30}_{1122}	$\mathbb{S}^3/(P_{120} \times Z_{13})$	$\mathbb{Z}_{13}$	S^3	6_{59}
r^{30}_{21303}	$(\mathbb{S}^2,(2,1),(3,1),(7,3),(1,-1))$	$\mathbb{Z}_{11}$	$SL_2(\mathbb{R})$	7_{120}
r^{30}_{17842}	$(\mathbb{S}^2,(2,1),(3,1),(8,1),(1,-1))$	$\mathbb{Z}_2$	$SL_2(\mathbb{R})$	8_{226}
r^{30}_{21350}	$(\mathbb{S}^2,(2,1),(3,1),(8,3),(1,-1))$	$\mathbb{Z}_{10}$	$SL_2(\mathbb{R})$	7_{127}
r^{30}_{28623}	$(\mathbb{S}^2,(2,1),(3,1),(9,2),(1,-1))$	$\mathbb{Z}_3$	$SL_2(\mathbb{R})$	8_{231}
r^{30}_{44846}	$(\mathbb{S}^2,(2,1),(3,1),(11,2),(1,-1))$	0	$SL_2(\mathbb{R})$	8_{243}
r^{30}_{17755}	$(\mathbb{S}^2,(2,1),(4,1),(5,2),(1,-1))$	$\mathbb{Z}_6$	$SL_2(\mathbb{R})$	7_{134}

(Table 2 continues...)

minimal gem	**prime orientable 3-manifold $\mathbf{M^3}$**	$\mathbf{H_1(M^3)}$	**geometry**	**position in [M]**
r^{30}_{45301}	$(\mathbb{S}^2,(2,1),(4,1),(7,2),(1,-1))$	$\mathbb{Z}_2$	$SL_2(\mathbb{R})$	8_{271}
r^{30}_{48748}	$(\mathbb{S}^2,(2,1),(5,1),(5,1),(1,-1))$	$\mathbb{Z}_5$	$SL_2(\mathbb{R})$	8_{283}
r^{30}_{48763}	$(\mathbb{S}^2,(2,1),(5,2),(5,2),(1,-1))$	$\mathbb{Z}_{15}$	$SL_2(\mathbb{R})$	7_{138}
r^{30}_{19485}	$(\mathbb{S}^2,(3,2),(3,2),(3,2),(1,-1))$	$\mathbb{Z}_3+\mathbb{Z}_9$	Nil	6_{67}
r^{30}_{15814}	$(\mathbb{S}^2,(3,1),(3,2),(3,2),(1,-1))$	$\mathbb{Z}_3+\mathbb{Z}_6$	Nil	6_{66}
r^{30}_{20091}	$TB\begin{pmatrix}1&0\\3&1\end{pmatrix}$	$\mathbb{Z}_3+\mathbb{Z}+\mathbb{Z}$	Nil	8_{377}
r^{30}_{56760}	$(T,(2,1))$	$\mathbb{Z}+\mathbb{Z}$	$SL_2(\mathbb{R})$	9_{902}
r^{30}_{21193}	$(\mathbb{RP}^2,(2,1),(3,1))$	$\mathbb{Z}_{24}$	$SL_2(\mathbb{R})$	7_{164}
r^{30}_{21188}	$(\mathbb{RP}^2,(2,1),(3,2))$	$\mathbb{Z}_{24}$	$SL_2(\mathbb{R})$	7_{165}
r^{30}_{20090}	$TB\begin{pmatrix}-1&0\\3&-1\end{pmatrix}$	$\mathbb{Z}_4+\mathbb{Z}$	Nil	8_{392}
r^{30}_{56762}	$(K,(2,1))$	$\mathbb{Z}_8+\mathbb{Z}$	$SL_2(\mathbb{R})$	9_{941}
r^{30}_{17038}	$TB\begin{pmatrix}-4&1\\-1&0\end{pmatrix}$	$\mathbb{Z}_6+\mathbb{Z}$	Sol	8_{393}
r^{30}_{17043}	$TB\begin{pmatrix}4&-1\\1&0\end{pmatrix}$	$\mathbb{Z}_2+\mathbb{Z}$	Sol	8_{394}
r^{30}_{56755}	$(\mathbb{A},(2,1),(1,-2))\bigcup_{\begin{pmatrix}0&1\\1&0\end{pmatrix}}(\mathbb{A},(2,1),(1,-2))$	$\mathbb{Z}_7+\mathbb{Z}$	-	9_{952}
r^{30}_{56759}	$(\mathbb{A},(2,1),(1,-1))\bigcup_{\begin{pmatrix}0&1\\1&0\end{pmatrix}}(\mathbb{A},(2,1),(1,-1))$	$\mathbb{Z}_5+\mathbb{Z}$	-	9_{950}

(Table 2 continues...)

minimal gem	**prime orientable 3-manifold M^3**	$\mathbf{H_1(M^3)}$	**geometry**	**position in [M]**
r^{30}_{21476}	$(K \tilde{\times} I) \cup (K \tilde{\times} I)/\begin{pmatrix} 1 & -2 \\ -1 & 1 \end{pmatrix}$	$\mathbb{Z}_2 + \mathbb{Z}_2 + \mathbb{Z}_4$	*Sol*	7_{171}
r^{30}_{45716}	$(K \tilde{\times} I) \cup (K \tilde{\times} I)/\begin{pmatrix} -1 & -1 \\ 1 & 2 \end{pmatrix}$	$\mathbb{Z}_4 + \mathbb{Z}_4$	*Sol*	7_{169}
r^{30}_{19144}	$(\mathbb{D},(2,1),(2,1),(1,0)) \bigcup_{\begin{pmatrix} 0 & 1 \\ 1 & 0 \end{pmatrix}} (\mathbb{D},(2,1),(3,2),(1,0))$	$\mathbb{Z}_4$	-	7_{173}
r^{30}_{18104}	$(\mathbb{D},(2,1),(2,1),(1,0)) \bigcup_{\begin{pmatrix} 0 & 1 \\ 1 & 0 \end{pmatrix}} (\mathbb{D},(2,1),(3,2),(1,-1))$	$\mathbb{Z}_{20}$	-	7_{175}
r^{30}_{19251}	$(\mathbb{D},(2,1),(2,1),(1,0)) \bigcup_{\begin{pmatrix} 1 & 2 \\ 1 & 1 \end{pmatrix}} (\mathbb{D},(2,1),(3,1),(1,-1))$	$\mathbb{Z}_2 + \mathbb{Z}_2$	-	8_{410}
r^{30}_{19087}	$(\mathbb{D},(2,1),(2,1),(1,0)) \bigcup_{\begin{pmatrix} 0 & 1 \\ 1 & 0 \end{pmatrix}} (\mathbb{D},(2,1),(3,1),(1,-1))$	$\mathbb{Z}_{28}$	-	7_{174}
r^{30}_{1111}	$(\mathbb{D},(2,1),(2,1),(1,0)) \bigcup_{\begin{pmatrix} 0 & 1 \\ 1 & 0 \end{pmatrix}} (\mathbb{D},(2,1),(3,1),(1,0))$	$\mathbb{Z}_4$	-	7_{172}
r^{30}_{56897}	$Q_1(2,-3)$	$\mathbb{Z}_5 + \mathbb{Z}_5$	H^3	9_{1151}
r^{30}_{45332}	$Q_4(2,-1)$	$\mathbb{Z}_3 + \mathbb{Z}_6$	H^3	9_{1153}
r^{30}_{56912}	$Q_{10}(2,-1)$	$\mathbb{Z}_3 + \mathbb{Z}_9$	H^3	10_{3063}

Table 2

The following statement summarizes the obtained classification of closed orientable prime 3-manifolds with gem-complexity 14:

Theorem I - *There exist exactly forty-one closed connected prime orientable 3-manifolds, which admit a coloured triangulation consisting of 30 tetrahedra, and do not admit a coloured triangulation consisting of less than 30 tetrahedra.*
Among them, there are:

- *10 elliptic 3-manifolds;*
- *17 Seifert non-elliptic 3-manifolds (in particular, 2 torus bundles with Nil geometry);*
- *2 torus bundles with Sol geometry;*
- *2 manifolds of type* $(K \tilde{\times} I) \cup (K \tilde{\times} I)/A$, *i.e. the ones associated to matrices* $\begin{pmatrix} 1 & -2 \\ -1 & 1 \end{pmatrix}$ *and* $\begin{pmatrix} -1 & -1 \\ 1 & 2 \end{pmatrix}$, *with Sol geometry; they are the geometric graph manifolds* $(\mathbb{D}, (2,1), (2,1), (1,-1)) \bigcup_{\begin{pmatrix} 1 & 2 \\ 1 & 1 \end{pmatrix}} (\mathbb{D}, (2,1), (2,1), (1,-1))$ *and* $(\mathbb{D}, (2,1), (2,1), (1,0)) \bigcup_{\begin{pmatrix} 0 & 1 \\ 1 & 0 \end{pmatrix}} (\mathbb{D}, (2,1), (2,1), (1,1))$ *respectively;*
- *7 non-geometric graph manifolds;*
- *3 hyperbolic Dehn-fillings (of the complement of link* 6^3_1*).*